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UPPER GUADALUPE RIVER FLOOD CONTROL PROJECT
SANTA CLARA COUNTY, CALIFORNIA
IDENTIFICATION OF WATERS OF THE U.S.

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AUGUST 1995

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EXECUTIVE SUMMARY

Biologists from the Environmental Planning Division of the Santa Clara Valley Water District (SCVWD) conducted field surveys of the Upper Guadalupe River Flood Control Project area for "Waters of the U.S." (hereafter referred to as jurisdictional waters), including areas meeting the technical criteria of jurisdictional wetlands. The objectives of the survey were to delineate areas meeting the regulatory definition of jurisdictional waters using the U.S. Army Corps of Engineers' (USACE) 1987 methodology and to have the delineation verified by USACE staff.

The ordinary high water (OHW) marks along the banks of the Guadalupe River and two tributaries, Ross and Canoas Creeks, were determined using a combination of field characteristics and hydrologic modeling for 2.3-year flood events. The modelled elevation of each OHW mark was located on aerial-topographic maps throughout most of the project area. Elevations were subsequently field checked and altered based on physical characteristics of the channel whenever necessary. Surveys were also conducted for areas meeting the technical criteria of "other waters" and jurisdictional wetlands which may occur above or below the OHW mark.

Areas meeting the regulatory definition of jurisdictional waters were identified in all reaches of the Guadalupe River and on Ross and Canoas Creeks. These included tributary waters defined by the OHW marks on opposing channel banks (36.62 acres), wetlands within tributary waters (9.93 acres), and "other waters" within three off-stream percolation ponds (3.44 acres); a total of 49.99 acres of jurisdictional waters. The remainder of the project areas did not meet the regulatory definitions of jurisdictional waters.

INTRODUCTION

PROJECT DESCRIPTION

The Upper Guadalupe River Flood Control Project is proposed by the SCVWD to control flooding along the Guadalupe River (River) within the City of San Jose. The River cannot currently contain the 1 percent flood (100-year flood), which is defined as the flood which has, on the average, a 1 percent chance of being equalled or exceeded in any given year. To increase the capacity of the River, channel modifications are proposed along eight sections (reaches), of the River, covering about 9 miles. There are two discrete project segments: one extends from Highway 101 to Interstate Highway 880 and the other extends from Highway 280 to several hundred feet upstream of Blossom Hill Road. Modifications are also proposed on adjacent portions of two tributaries, Ross and Canoas Creeks.

Proposed modifications include overflow bypass channels, channel widening and benching, installation of gabions, and construction of floodwalls and levees. No flood control modifications are proposed upstream of Blossom Hill Road (Reach 13), however, the installation of a fish passage over an existing drop structure and reconfiguration of the channel above the passage to enhance fisheries habitat are proposed.

PURPOSE

Biologists from the Environmental Planning Division of the SCVWD surveyed the project area to identify and delineate areas meeting the regulatory definition of Waters of the United States (jurisdictional waters). Surveys were conducted using the USACE 1987 methodology (Environmental Laboratory 1987) so that the delineation could be verified by the USACE staff. Development in areas identified as jurisdictional waters is subject to the permit requirements of the USACE, under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act.

PROJECT AREA DESCRIPTION

The Upper Guadalupe River Flood Control Project site is located within the City of San Jose, in Santa Clara County, California (Figure 1). The approximately 9-mile long project site includes two separate sections of the River. The northern section, Reach A, extends from Highway 101 to Interstate Highway 880 (Figure 2). The southern section consists of seven contiguous reaches (designated 6-13), which extend from Highway 280 to just south of Blossom Hill Road. The lower portions of two tributaries to the Guadalupe River, Ross and Canoas Creeks, join the River on Reaches 10 and 11. The project site is located on the San Jose West (Township 6S, Range 1W; Township 7S, Ranges 1W and 1E; Township 8S, Range 1E), San Jose East (Township 8S, Range 1E), and Santa Teresa Hills (Township 8S, Range 1E) U.S. Geological Survey (USGS) Quadrangle Maps (Quads) dated 1980 (Figures 3-6).

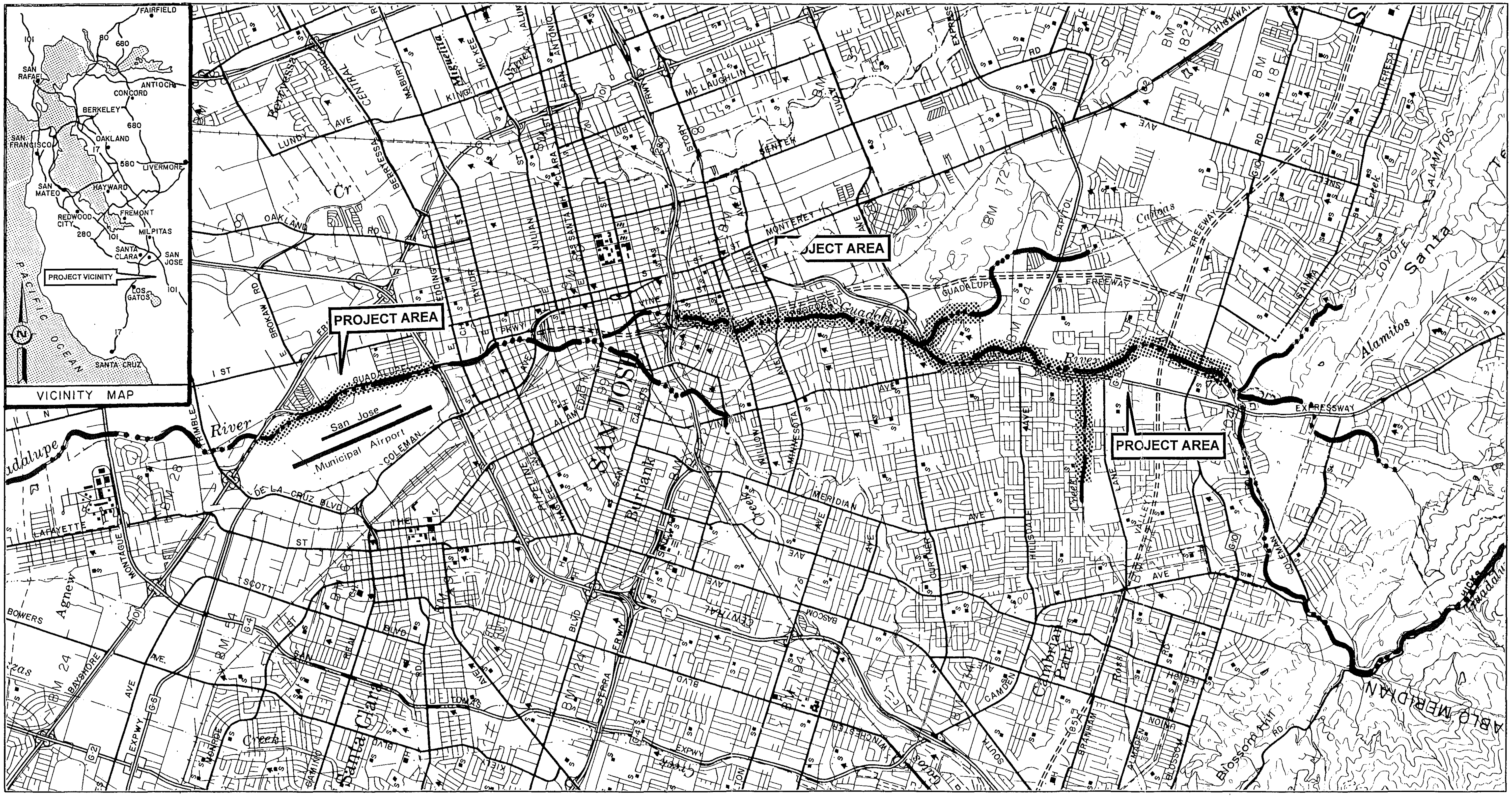
The Guadalupe River flows from south to north through the Santa Clara Valley. The River begins at the confluence of Alamitos and Guadalupe Creeks upstream of the project area and ultimately empties into southern San Francisco Bay. The headwaters originate in the eastern Santa Cruz Mountains near the summit of Loma Prieta. Three major tributaries, Ross, Canoas, and Los Gatos Creeks, join the River along its course.

The project area is located in a highly-urbanized region, and the River is primarily bordered by high-density residential and commercial property. In some locations, such developed areas extend to the tops of the creek banks. Over the years, portions the River have been subject to numerous modifications including in-stream gravel mining; excavation for flood control; bank stabilization with riprap, gabions, and concrete debris; channelization; highway overpass and bridge crossings; and in-stream percolation pond operation. The portions of Ross and Canoas Creeks within the project area have been channelized.

The average annual rainfall for the general area ranges between 15 and 20 inches (Soil Conservation Service [SCS] 1968). The majority of this rain falls between the months of October and April. However, the Santa Clara Valley, in general, received approximately 160 percent of normal rainfall during the 1994-94 season, with unusually late season rains continuing into June. The high rainfall amounts resulted in 15- and 25-year flood events on the Guadalupe River. Runoff enters the River primarily in the form of regulated releases from upstream dams on Alamitos, Guadalupe, and Los Gatos Creeks. Additional flows enter the River via storm drains and Ross and Canoas Creeks.

Site elevations range from approximately 190 feet National Geodetic Vertical Datum (NGVD) at the upstream end of the project near the Alamitos Drop Structure on Reach 13 to approximately 30 feet at the downstream end of the project on Reach A.

Numerous soil types have been mapped within the project area by the SCS (Table 1). Four of these soil types (Campbell silty clay loam, Campbell silty clay, Cropley clay loam, and Pacheco loams, clay substratum) have hydric components (SCS 1992).



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GRAPHIC SCALE

-5000 0 2500 5000 10000

(IN FEET)

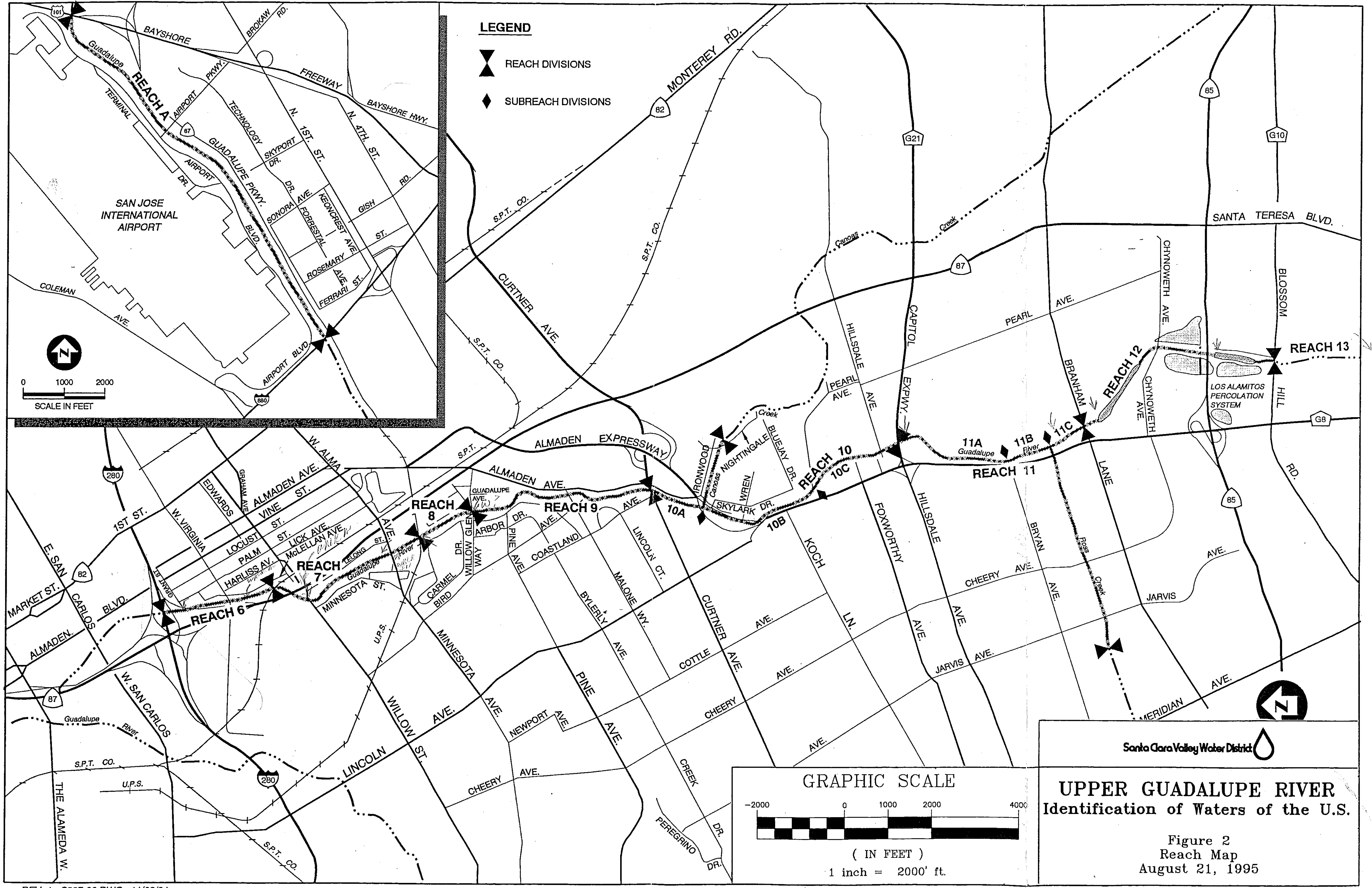
1 inch = 5000' ft.

UPPER GUADALUPE RIVER

Identification of Waters of the U.S.

Figure 1
Site/Vicinity Map
August 21, 1995

FIGURE 1.1



GRAPHIC SCALE

-2000 0 1000 2000 4000

(IN FEET)
1 inch = 2000' ft.

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UPPER GUADALUPE RIVER
Identification of Waters of the U.S.

Figure 2
Reach Map
August 21, 1995

REV. 1 C337-98.DWG 11/03/94

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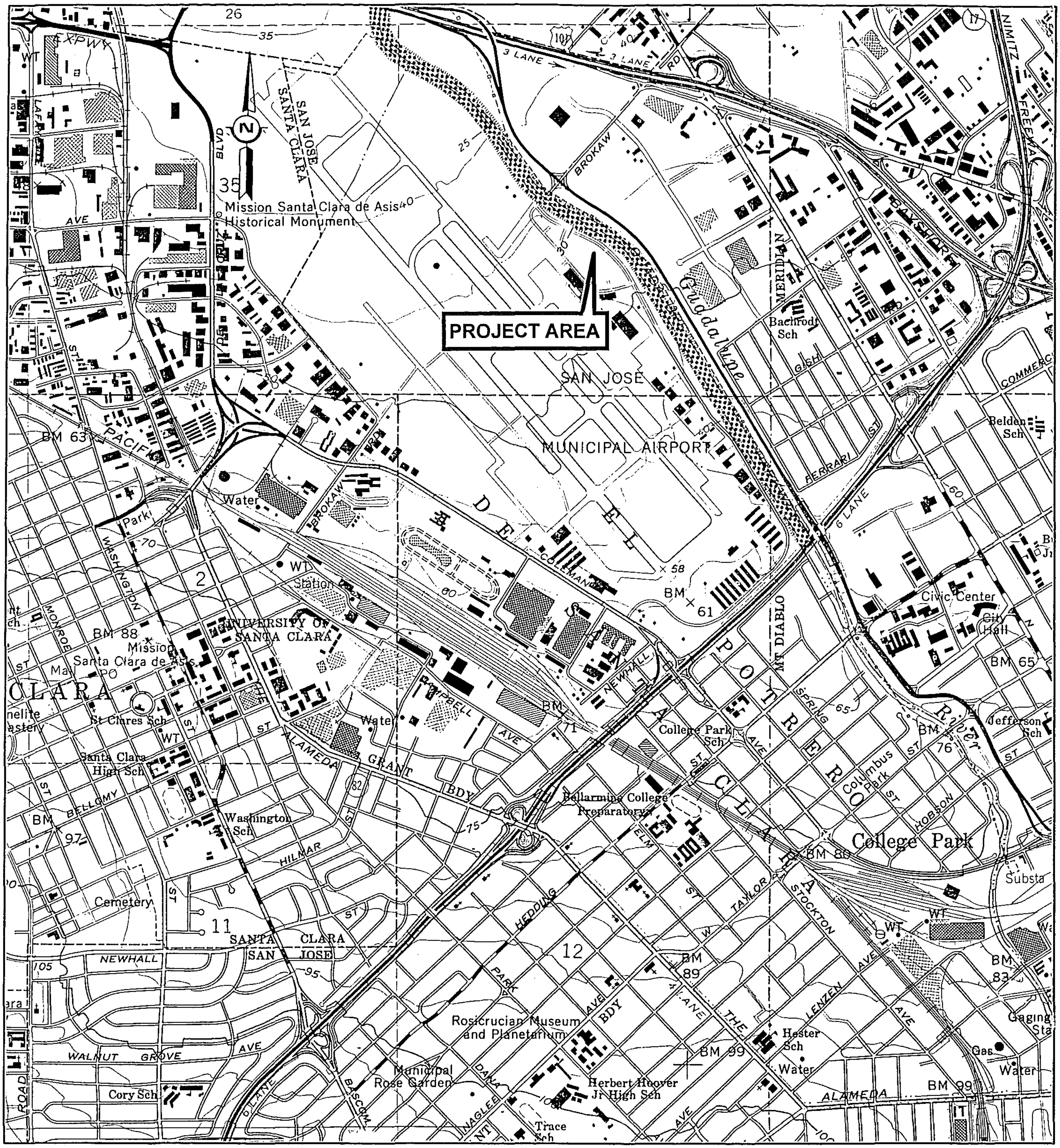

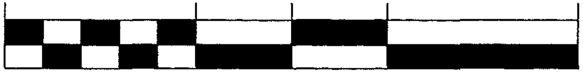

(IN FEET)
1 inch = 2000 ft.

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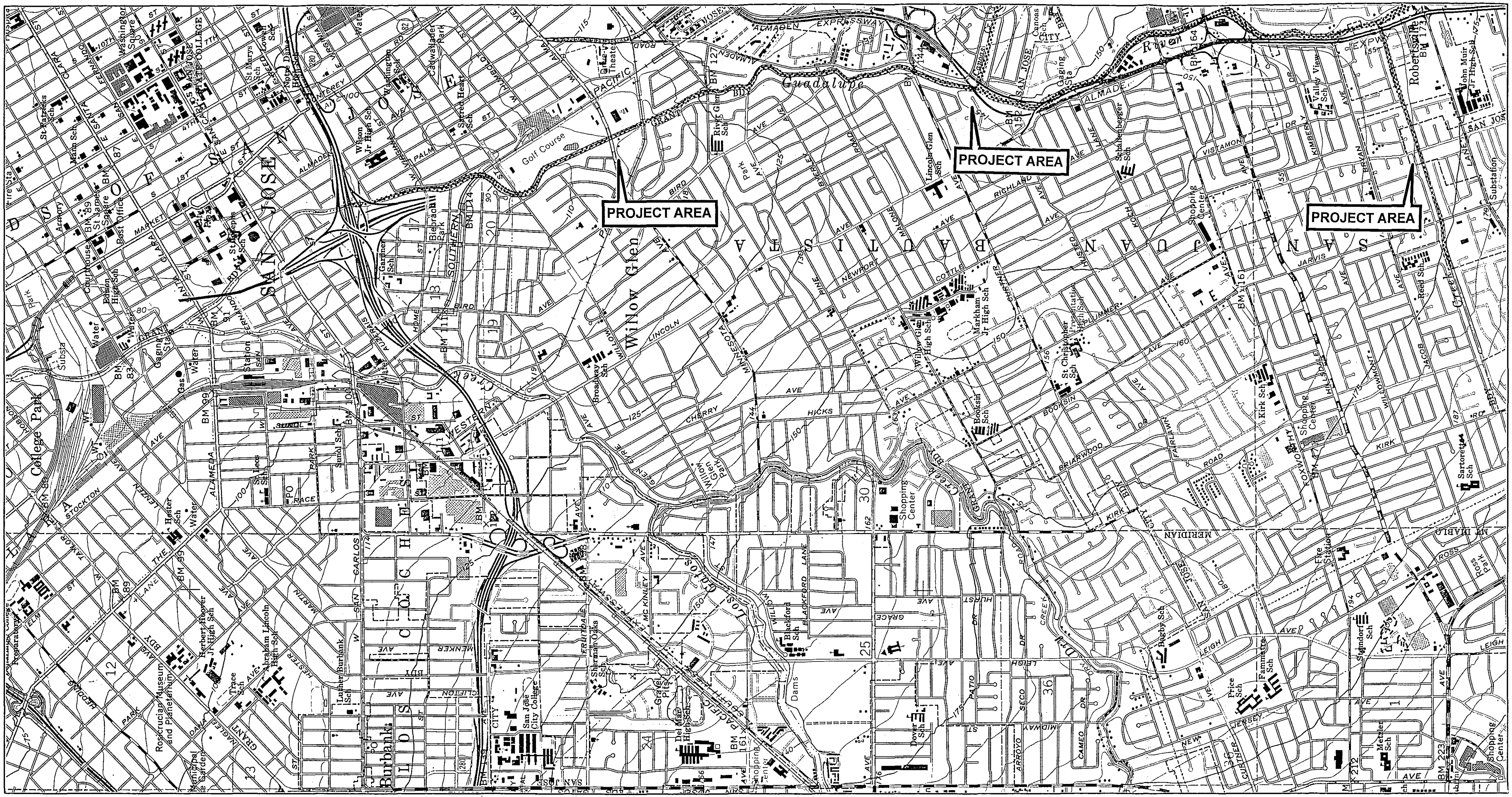
UPPER GUADALUPE RIVER
Identification of Waters of the U.S.

Figure 3
San Jose West USGS Map
Reach A
August 21, 1995



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(IN FEET)
1 inch = 2000' ft.

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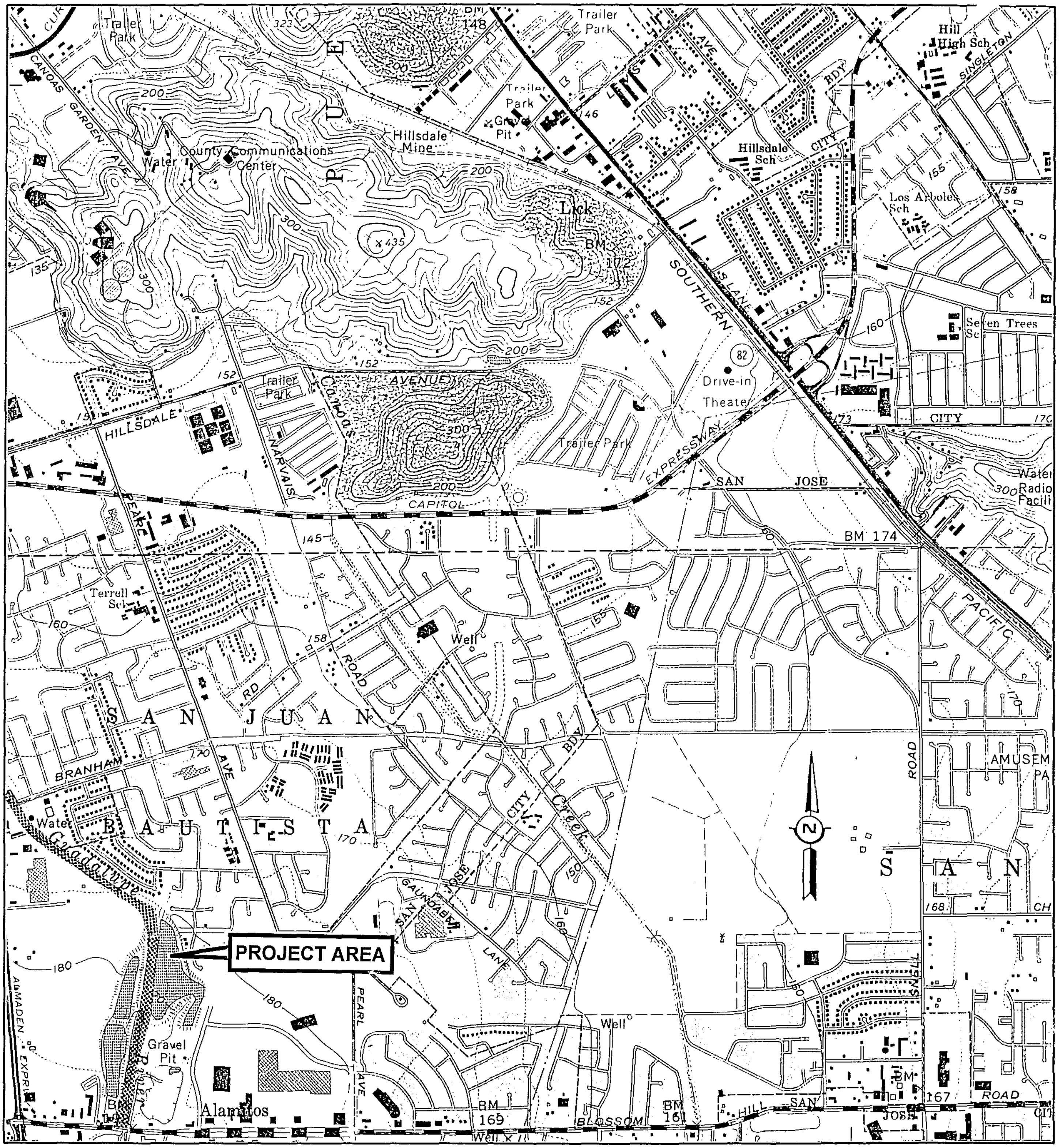
UPPER GUADALUPE RIVER
Identification of Waters of the U.S.

Figure 4
San Jose West USGS Map
Reaches 6-11 &
Ross & Canoas Creeks
August 21, 1995



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GRAPHIC SCALE

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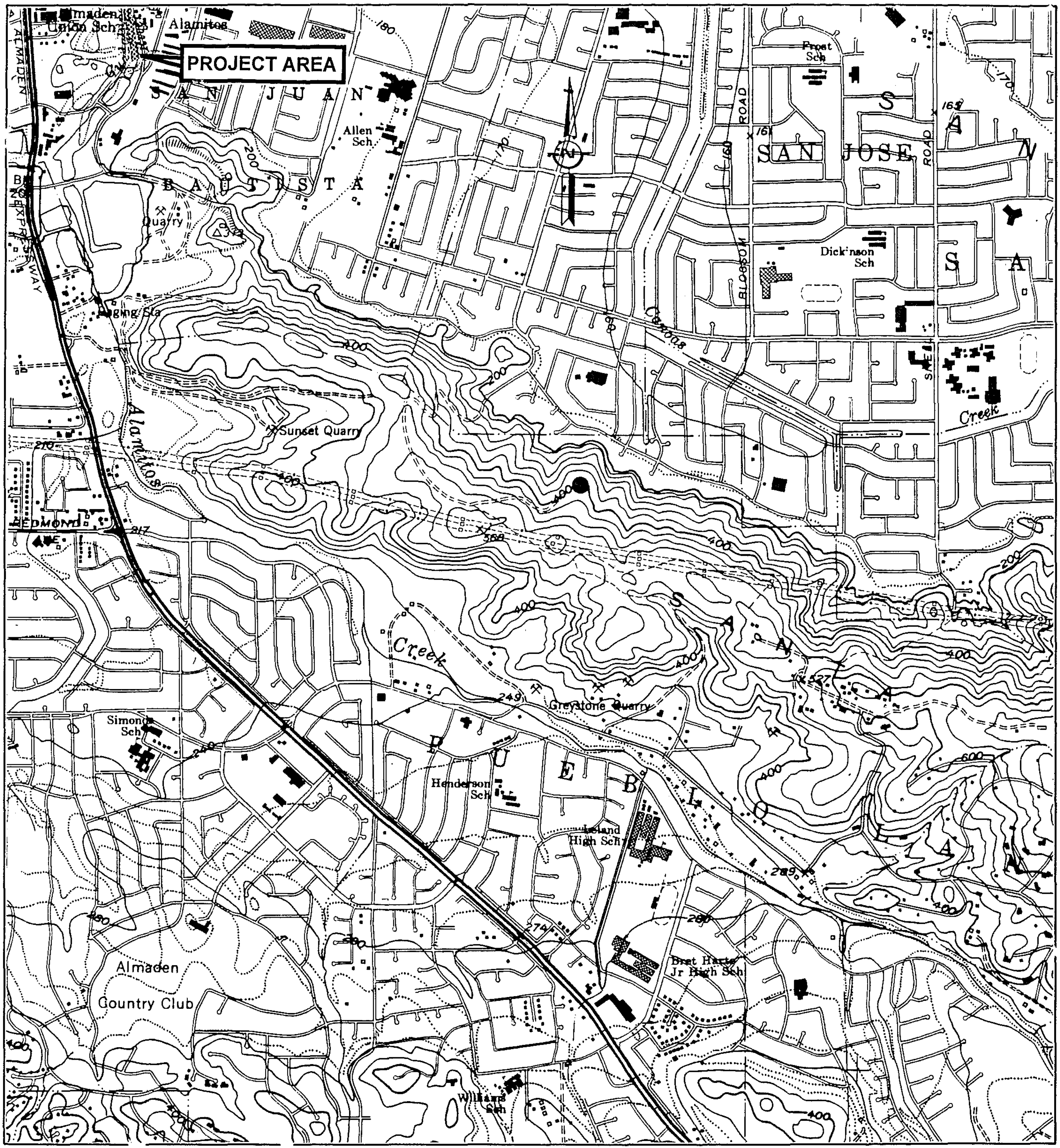
(IN FEET)

1 inch = 2000 ft.

UPPER GUADALUPE RIVER

Identification of Waters of the U.S.

Figure 5
San Jose East USGS Map
Reaches 11 & 12
August 21, 1995



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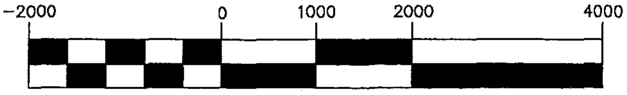

(IN FEET)
1 inch = 2000 ft.

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UPPER GUADALUPE RIVER
Identification of Waters of the U.S.

Figure 6
Santa Teresa Hills USGS Map
Reach 13
August 21, 1995

TABLE 1
Soils of the Upper Guadalupe River Flood Control Project Area*

Symbol	Soil Type/Phase	Hydric Component	Reach
Ca	Campbell silty clay loam	Clear Lake (low alluvial plains)	7, Canoas
Cd	Campbell silty clay	Clear Lake (low alluvial plains)	7, Ross
CsA	Cropley clay loam, 0-2% slopes	Campbell	A
GbB	Garretson gravelly loam	None	10B, 12, 13
GpA	Garretson fine sandy loam, 0-2%	None	6
Pf	Pacheco loams, clay substratum	Pacheco (small areas with high water tables)	A, 6
Pkg	Pits	None	12
PoA	Pleasanton loam, 0-2% slopes	None	Ross
PpA	Pleasanton gravelly loam, 0-2% slope	None	Ross
SdB2	San Ysidro loam, 2-9% slopes	None	7, 8
YaA	Yolo loam, 0-2% slopes	None	8, 9, 10A, 10B, Canoas
YeA	Yolo silty clay loam, 2-9% slopes	None	9, 10 (all), 11 (all), Ross
ZbA	Zamora clay loam, 0-2% slopes	None	Ross

*SCS 1968 and 1992

OVERVIEW OF REGULATIONS

Areas meeting the regulatory definition of "Waters of the United States" (jurisdictional waters) are subject to the jurisdiction of the USACE. The USACE has jurisdiction over "Waters of the U.S." under provisions of Section 404 of the Clean Water Act (1972) and Section 10 of the Rivers and Harbors Act (1899). These waters may include all waters used, or potentially used, for interstate commerce, including all waters subject to the ebb and flow of the tide, all interstate waters, all other waters (intrastate lakes, rivers, streams, mudflats, sandflats, playa lakes, natural ponds, etc.), all impoundments of waters otherwise defined as "Waters of the U.S.," tributaries of waters otherwise defined as "Waters of the U.S.," the territorial seas, and wetlands adjacent to "Waters of the U.S." (Federal Register 1982).

Areas not considered to be jurisdictional waters include nontidal drainage and irrigation ditches excavated on dry land, artificially-irrigated areas, artificial lakes or ponds used for irrigation or stock watering, small artificial water bodies such as swimming pools, and water-filled depressions (33 CFR, Part 328). In addition, agricultural lands which satisfy the criteria as "prior converted croplands," as defined by the SCS (SCS; National Food Security Act Manual 1988, Section 512.15), are not subject to regulation under Section 404. "Prior converted croplands" are defined as wetlands which were both manipulated (drained or otherwise physically altered to remove water from the land) and cropped before December 23, 1985, to the extent that they no longer exhibit important wetland values. To qualify as "prior converted croplands," the lands must not be inundated for more than 14 consecutive days during the growing season.

Construction activities within jurisdictional waters are regulated by the USACE. The placement of fill into such waters must be in compliance with permit requirements of the USACE. No USACE permit will be approved in the absence of state water quality certification pursuant to Section 401 of the Clean Water Act. The State Water Resources Control Board is the state agency charged with implementing water quality certification in California.

Similarly, activities which result in the diversion or obstruction of the natural flow of a stream, or which substantially change its bed, channel, or bank, or which utilize any materials (including vegetation) from the streambed requires that the project applicant enter into a Streambed Alteration Agreement with the California Department of Fish and Game (CDFG), under Sections 1601-1603 of the State Fish and Game Code. The CDFG potentially extends the definition of stream to include "intermittent and ephemeral streams, rivers, creeks, dry washes, sloughs, blue-line streams (USGS), and watercourses with subsurface flows. Canals, aqueducts, irrigation ditches, and other means of water conveyance can also be considered streams if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife" (CDFG 1994)

SURVEY METHODS

GENERAL APPROACH

Project Boundaries

The study area (project boundaries) included all areas which will be subject to either direct or indirect impacts under the preferred project alternative, plus any additional areas within the banks of the channels not currently slated for impacts (except in Reach A, where only impact areas were surveyed).

Map and Photo Review

Land use, soils, and topography of the entire project area were reviewed with the aid of aerial photographs, soils, and topographic maps prior to field visits. These sources included USGS Quad maps (Figures 3-6) and National Wetlands Inventory (NWI) maps (Figures 7-10) for San Jose West, San Jose East, and Santa Teresa Hills, and aerial photographs contained in *Soils of Santa Clara County* (SCS 1968).

Additional photos used for review, field studies, and mapping included black and white aerials of Reach A (scale 1″=100′, 1990), aerial-topographic photos (scale 1″=50′, 1991) of Reaches 6-12, Canoas Creek and the lower portion of Ross Creek, and 1″=50′ scale aerial-topographic photos of the upper portion of Ross Creek (1982) and Reach 13 (1991).

Stream Flow Data and HEC 2 Modelling

In order to determine the current status of stream flows during project surveys relative to high flows of the rainy season, stream flow amounts immediately preceding site visits were compared to monthly high flow amounts during the past 2 years (one a much drier than average year and one much wetter than average). Current flows were also compared to the estimated average 2.3-year flood event flows as determined by the SCVWD. Stream gage data from numerous locations along the Guadalupe River, Ross Creek, and Canoas Creek were provided by the SCVWD and USGS.

HEC 2-modelled 2.3-year flood event elevations were provided by the SCVWD for Reaches A-12, Ross Creek, and Canoas Creek.

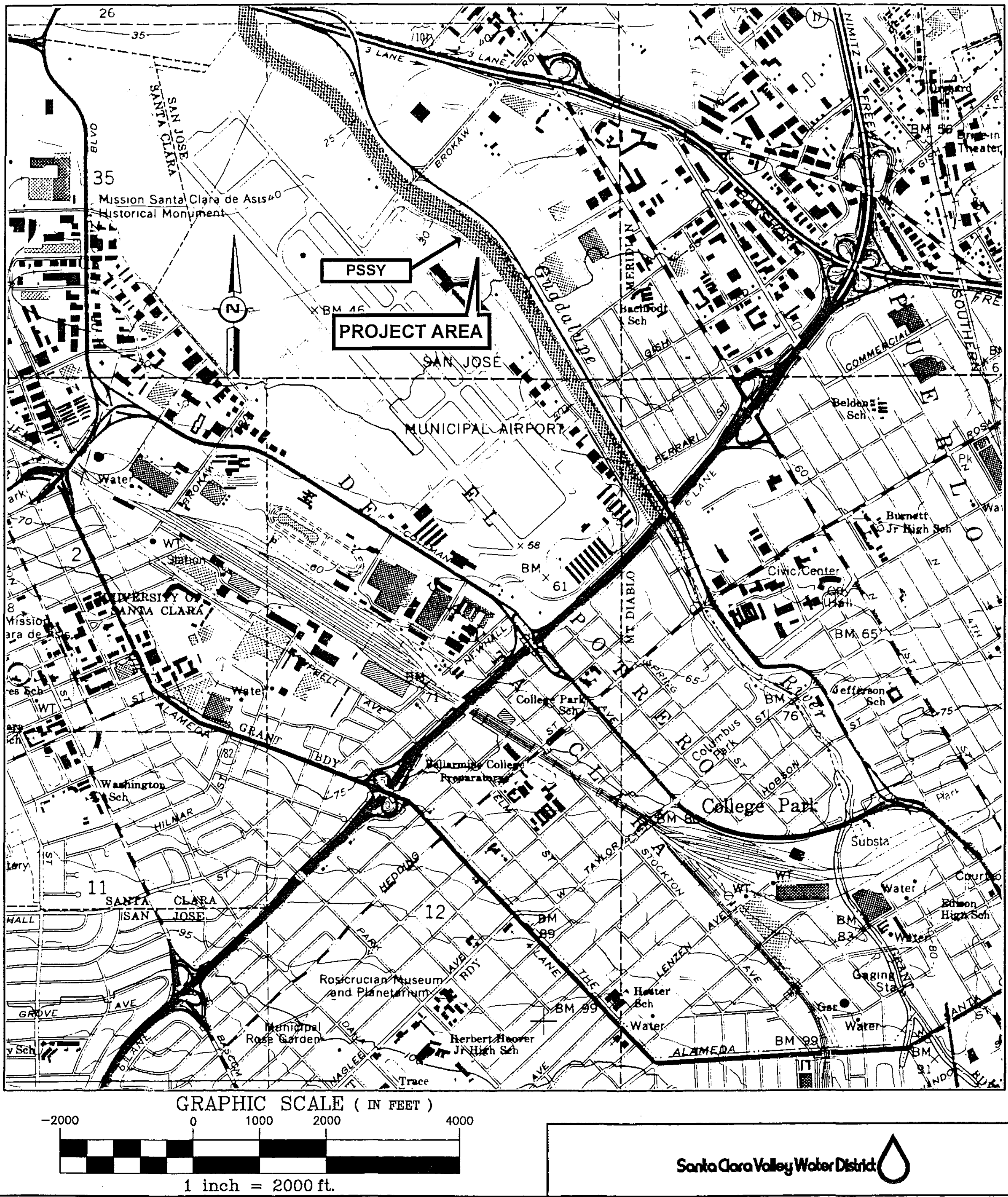
Previous Reports

Existing literature regarding areas within or adjacent to the current project area was reviewed and incorporated into the current report as applicable. These reports included *Delineation of Jurisdictional Waters: Route 87 Freeway* (H.T. Harvey and Associates 1992); *Spreader Dams Santa Clara County, California: Identification of Waters of the U.S.* (H.T. Harvey and Associates 1994); *Fourth Administrative Draft Environmental Impact Report/Environmental Impact Statement for Guadalupe River Flood Control Project, Volume I* (Engineering Science, Inc., 1994); and *Guadalupe Preliminary Wetland Determination* (Habitat Restoration Group 1993).

Field Surveys and Mapping

Field surveys were conducted within the project area during June, July, and August 1995. Field surveys focused primarily on those areas with the potential to support jurisdictional waters, including all areas within and adjacent to the banks of the River and creeks. Field surveys were not conducted in areas in which jurisdictional waters were clearly absent, such as residential and commercial developments.

The approximate location and extent of areas within OHW and wetlands were mapped onto the 1″=50′ or 1″=100′ photos and topographic photos described above. The sizes of these areas were either determined in the field by direct measurements or mapped and then digitized into and analyzed with Autocad.



Santa Clara Valley Water District

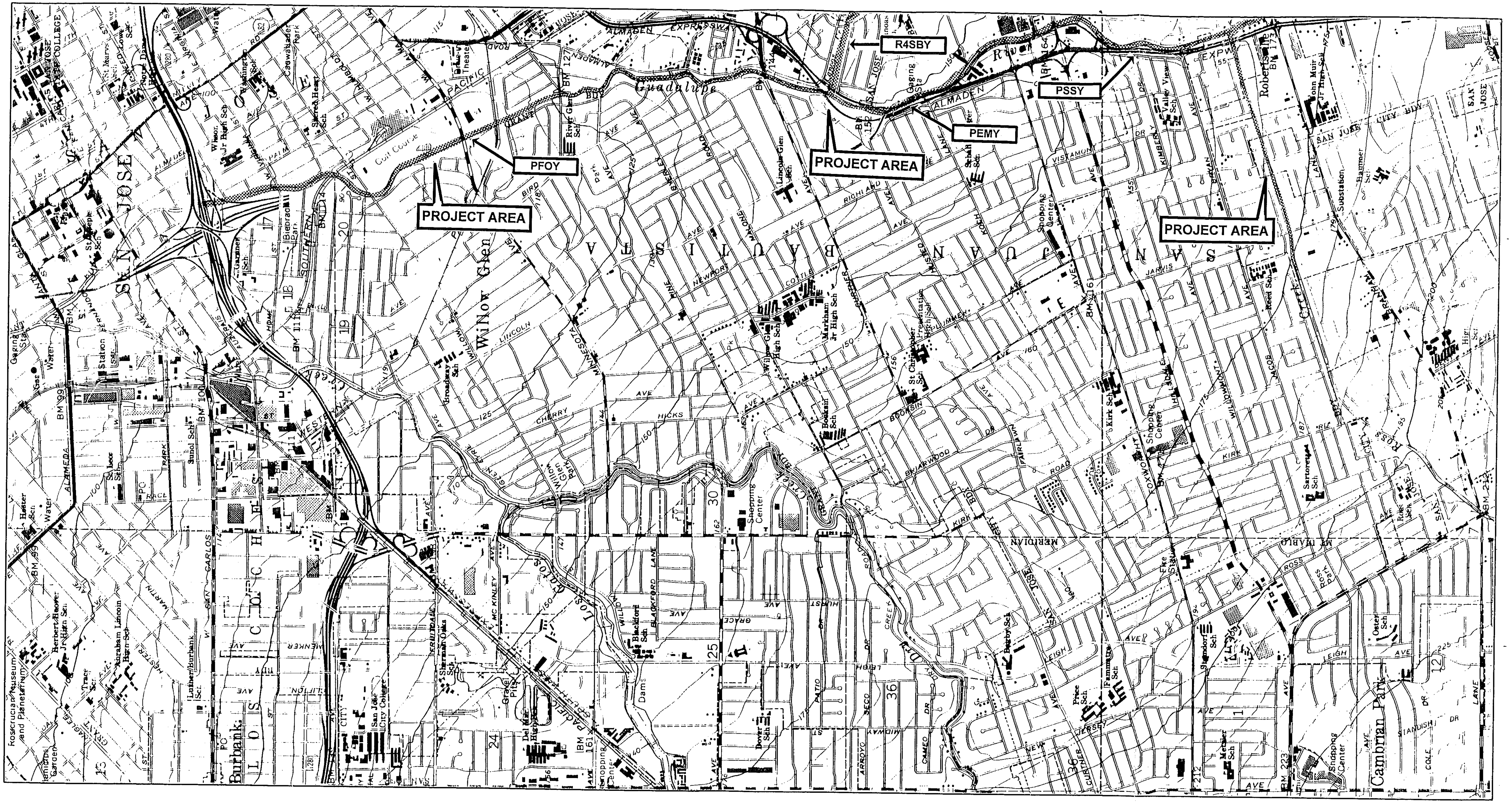
UPPER GUADALUPE RIVER

Identification of Waters of the U.S.

Figure 7
National Wetlands Inventory Map
San Jose West Quad
Reach A
August 21, 1995

LEGEND

PSSY: Palustrine, scrub-shrub, saturated/ seasonal/semipermanent



GRAPHIC SCALE

-2000 0 1000 2000 4000

(IN FEET)
1 inch = 2000' ft.

LEGEND

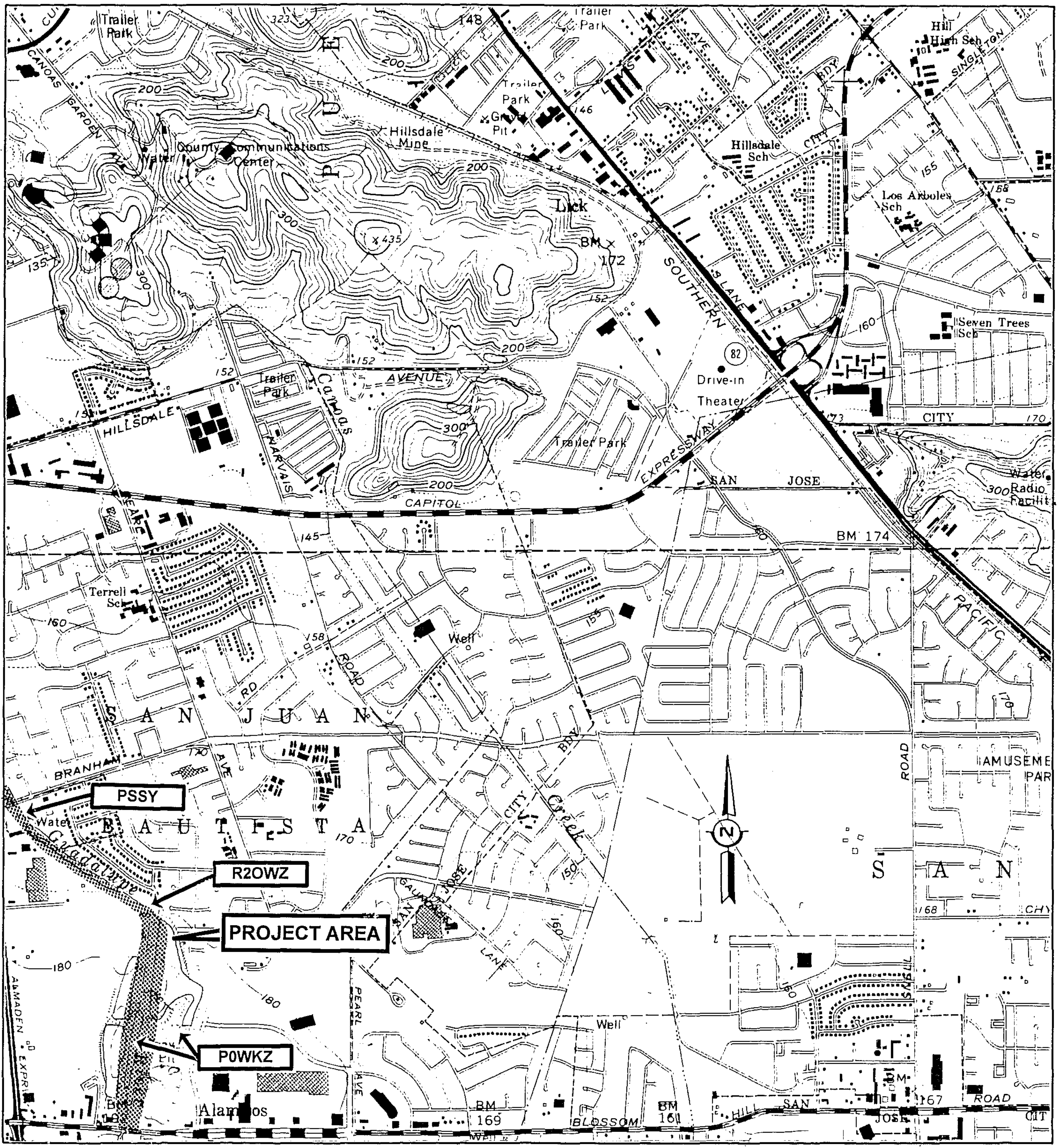
PEMY:	Palustrine, emergent, saturated/seasonal/ semipermanent
PFOY:	Palustrine, forested, saturated/seasonal/ semipermanent
PSSY:	Palustrine, scrub-shrub, saturated/ seasonal/semipermanent
R4SBY:	Riverine, intermittent, streambed, saturated/semipermanent/seasonal

Santa Clara Valley Water District

UPPER GUADALUPE RIVER

Identification of Waters of the U.S.

Figure 8
National Wetlands Inventory Map
San Jose West Quad
Reaches 6-11 & Ross & Canoas Creeks
August 21, 1995



GRAPHIC SCALE (IN FEET)

-2000 0 1000 2000 4000

1 inch = 2000 ft.

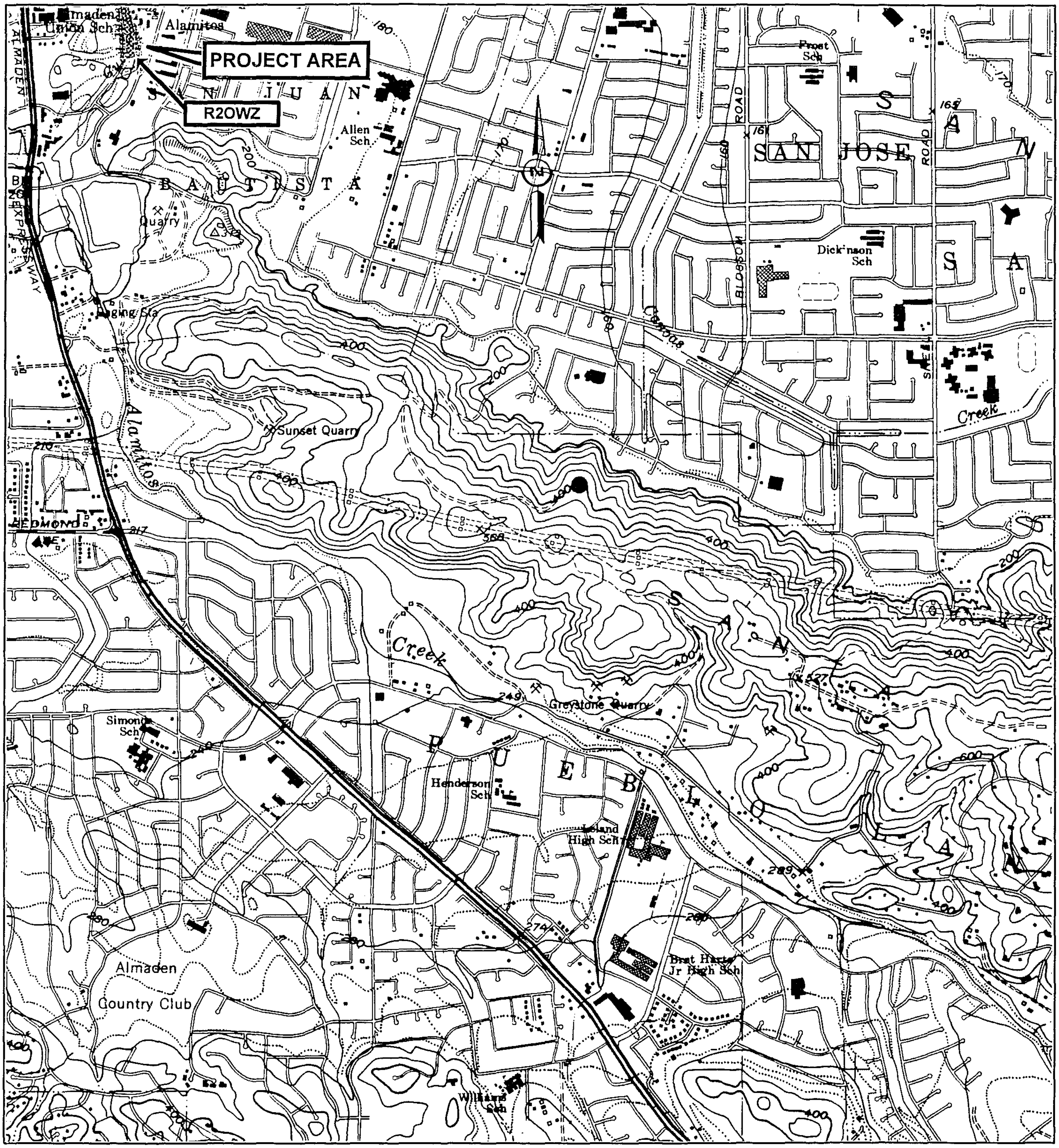
Santa Clara Valley Water District

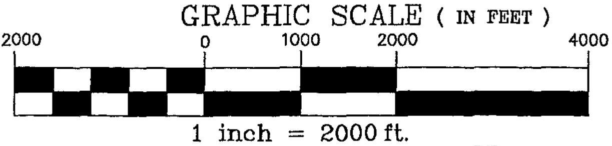
LEGEND

PSSY: Palustrine, scrub-shrub, saturated/ seasonal/semipermanent
POWKZ: Palustrine, open water, artificially flooded, intermittently exposed/permanent
R2OWZ: Riverine, lower perennial, open water, intermittently exposed/permanent

UPPER GUADALUPE RIVER
Identification of Waters of the U.S.

Figure 9
National Wetlands Inventory Map
San Jose East Quad
Reaches 11 & 12
August 21, 1995





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LEGEND

R2OWZ: Riverine, lower perennial, open water, intermittently exposed/permanent

UPPER GUADALUPE RIVER

Identification of Waters of the U.S.

Figure 10
National Wetlands Inventory Map
Santa Teresa Hills Quad
Reach 13
August 21, 1995

IDENTIFICATION OF TRIBUTARY WATERS

Tributary waters and their impoundments are under the regulatory jurisdiction of the USACE and extend to the OHW mark on opposing channel banks. Tributary waters include rivers, streams, and seasonal drainage channels. The OHW mark is typically indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in character of soil, destruction of terrestrial vegetation, the deposition of leaf litter and other debris materials, and abrupt changes from hydrophytic to upland vegetation on channel banks.

Throughout Reaches 6-13, and Ross and Canoas Creeks, measurements of the extent of OHW (the width from bank to bank) within tributary waters were taken approximately every 200 to 300 feet, where possible (a total of approximately 175 measurements). Measurements were more frequent along heterogeneous stretches and, occasionally, less frequent along extremely homogenous stretches where access was limited. Channel widths were measured with either a Ranging rangefinder or measuring tape.

IDENTIFICATION OF JURISDICTIONAL WETLANDS (SPECIAL AQUATIC SITES)

The vegetation, soils, and hydrology of the site were examined following the guidelines outlined in the "Routine Determination Method" in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987). A representative subset of the wetlands found throughout the project area were sampled. The number of wetlands sampled was dependent upon the amount of information necessary to describe the general features of wetlands within each reach. Wetlands within each reach, and to some degree, within the majority of the project area, were very similar in their vegetation, hydrology, and soil features.

Where evidence of wetlands was identified, a sample transect was placed on the channel bank, oriented perpendicular to the channel to verify the occurrence of potential jurisdictional wetlands. At least two sample points were located on each transect; one below the OHW mark and one above the OHW mark. Information from these sample points was compiled on data sheets (Appendix C).

On Reach A, a wetland sample transect was located within each of nine individual areas in which impacts to potential jurisdictional waters will occur. No wetlands were sampled along Canoas Creek, where wetlands (areas vegetated with hydrophytes and located below OHW) were extremely similar to those seen in adjacent reaches, and were inaccessible due to steep, excavated banks.

Vegetation

Plants observed at each of the sample sites were identified to species using standard floras appropriate for central California, wherever necessary. Such floras included *The Jepson Manual* (Hickman 1993), *A California Flora and Supplement* (Munz and Keck 1968), *Flora of the Santa Cruz Mountains of California* (Thomas 1961), and *A Flora of the Marshes of California* (Mason 1969). The wetland indicator status of each species was obtained from the *1988 Wetland Plant List, California* (Reed 1988). The names of plants were generally consistent with those in *The Jepson Manual*. A list of species for each observation area was then compiled and an assessment of the dominant species made. It was then determined which of the observation areas supported wetland vegetation.

Wetland indicator species are so designated according to their frequency of occurrence in wetlands. For instance, a species with a presumed frequency of occurrence of 67 percent to 99 percent in wetlands is designated a facultative wetland indicator species. The wetland indicator category, category symbol, and frequency of occurrence of species within each category are as follows:

TABLE 2
Plant Wetland Indicator Status Categories*

Indicator Category	Symbol	Frequency of Occurrence
Obligate	OBL	Greater than 99%
Facultative Wetland	FACW	67-99%
Facultative	FAC	34-66%
Facultative Upland	FACU	1-33%
Upland	UPL	Less than 1%

*Based upon information presented in *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987).

Obligate and facultative wetland indicator species are hydrophytes that occur "in areas where the frequency and duration of inundation or soil saturation produce permanently or periodically saturated soils of sufficient duration to exert a controlling influence on the plant species present" (Environmental Laboratory 1987). A list of the vascular plants of the project area and their current indicator status has been provided in Appendix A.

Soils

Where possible, the top 16 inches of the soil profile was examined for hydric characteristics. Such characteristics include the presence of organic soils (Histisols), histic epipedons, aquic or peraquic moisture regime, presence of soil on hydric soil list, low soils chroma, mottling indicated by the presence of gleyed or bright spots of colors (in the former case, blue-grays; in the latter case, orange-red or red-brown) within the soil horizons observed. Mottling of soils usually indicates poor aeration and lack of good drainage. Munsell Soil Notations (Munsell Soil Color Charts, Kollmorgen Instr. Corp. 1990) were recorded for the soil matrix for each soil sample. Chroma values of the soil matrix which are one or less, or of two or less when mottling is present, are typical of soils which have developed under anaerobic conditions.

In sandy soils, such as alluvial deposits in the bottom of drainage channels, hydric soil indicators include high organic matter content in the surface horizon and streaking of subsurface horizons by organic matter. All soil colors indicated in this report were taken under clear, sunny skies using moistened soil samples.

The soil survey, *Soils of Santa Clara County, California* (SCS 1968) was consulted in order to determine which soil types have been mapped on the project site. Descriptions of soil mapping units and the list of hydric soils in Santa Clara County are included in Appendix B. No attempt was made to verify the identity of mapped soil types in the field.

Hydrology

Each of the sample sites was examined for positive field indicators of wetland hydrology. Such indicators might include visual observation of inundation and/or soil saturation, water marks, drift lines, waterborne sediment deposits, water-stained leaves, algal mats, and drainage patterns within wetlands.

IDENTIFICATION OF “OTHER WATERS”

“Other waters” include areas such as lakes, seasonal ponds, and seasonal springs. Such areas are identified by the presence of standing or running water and generally lack hydrophytic vegetation. Jurisdiction within “other waters” extends up to the OHW level.

SURVEY RESULTS

GENERAL OBSERVATIONS AND RATIONALE

1. Flow rates (cubic feet/second, cfs) as measured by gauges within the river and creeks at the time of site surveys were far below the 2.3-year flood event flow rates estimated by SCVWD hydrologists and were also far below the maximum flow-rates of the past 2 years. Therefore, water levels at the time of field surveys were presumed to be below the level of OHW.

2. In some locations, debris was stranded in tree tops and banks were eroded to very high levels, sometimes to bank tops up to 20 feet above the low-flow channel. The high elevations at which these features occurred were inconsistent with hydrologic features identified just up and downstream, and of the watercourse in general. These features were presumed to be the result of high flow events, such as the 10 and 25 year storm events of the past year, and were not, therefore, considered to be indicators of OHW.

3. The OHW elevations obtained from HEC 2 modelling were sometimes substantially higher than OHW levels obtained from field characteristics. In some cases, HEC 2-estimated OHW levels extended up to the tops of banks or, occasionally, outside the banks, particularly in downstream reaches. Field features were, therefore, determined to be the most reliable indicators of OHW.

4. In some areas, dense vegetation, gabion, and concrete obscured or eliminated bank features. In other locations, bank features may have been altered by past activities such as grading and installation and removal of summer dams. In areas where channels have been significantly widened, the resulting low-velocity flows within the broad bed may not produce clear field evidence of OHW.

   Where observable indications of OHW were either ambiguous or lacking, OHW levels were determined by several methods. Areas up or downstream of the site where evidence of OHW was better defined were examined. OHW elevations were then determined and extrapolated back to the more ambiguous areas using elevational contours. Minimum potential OHW elevations were sometimes established by determining the elevations of the lowest contour not located within the low-flow channel.

5. In general, OHW levels were comparable to those reported in two verified studies—*Delineation of Jurisdictional Waters: Route 87 Freeway* (H.T. Harvey and Associates 1992) and *Spreader Dams Santa Clara County, California: Identification of Waters of the U.S.* (H.T. Harvey and Associates 1994). However, at the two of the four spreader dam sites included in the present study (on Reaches 11 and 12), our estimates of the extent OHW were broader and, therefore, slightly higher in elevation, than previously determined. These differences may be due to changes in the configuration of the gravelly channel bottoms in these locations during the past season. Current channel bottom configurations at these locations also varied from those apparent in the aerial photographs.

6. Phreatophytes (plants which obtain water from roots far below the soil surface) are common components of the riparian woodlands and forests. Such species occasionally occur within OHW. Areas vegetated solely with phreatophytes were not considered wetlands because such species are not dependent on surface moisture conditions for establishment and growth, and are dormant during the time of year when wetland hydrology is present in channel bed locations in which they grow.

7. Occasionally, stands of Himalayan blackberry (*Rubus discolor*, FACW) or giant reed *(Arundo donax*, FACW) extended from high bank or top of bank areas into areas below OHW. Because these species commonly occur in upland areas (on Guadalupe and other local creek systems), they were considered to be unreliable indicator species. Areas vegetated with these species on the Guadalupe River were considered wetlands only if the species occurred in conjunction with other hydrophytes or occurred in clusters that were completely restricted to areas below OHW.

AREAS MEETING THE REGULATORY DEFINITION OF JURISDICTIONAL WATERS

Jurisdictional waters subject to provisions of Section 404 of the Clean Water Act were identified within the project area (Sheets 1-36, oversized). These included tributary waters, wetlands situated below OHW, and "other waters." Areas meeting the technical definition of wetlands were not observed above the OHW marks in any location. Both tributary waters and wetlands were located on all reaches of the Guadalupe River and on Ross and Canoas Creeks. "Other waters" (two off-stream percolation ponds) were located adjacent to the River in Reach 12. The remainder of the project area, as defined by the project boundaries, did not meet the regulatory definition of a jurisdictional water.

Table 3 presents a summary of the locations, amounts, and types of jurisdictional waters found within the project area. A list of the vascular plant species of the site, wetland data forms and site photographs are presented in Appendices A, C, and D, respectively.

Tributary Waters

Tributary waters are shown on Sheets 1-36 (oversized). Areas below OHW consisted of open water, bare soils and gravel, and gravel bars vegetated with herbaceous upland species. Areas below OHW were primarily devoid of rooted, woody vegetation, however, woody species including willows (*Salix* sp., FACW), box elder (*Acer negundo*, FACW), and elms (*Ulmus* sp., UPL) were occasionally present on small, low bars just downstream of bridge crossings. Water was present within the channel in all reaches of Guadalupe River, Canoas Creek, and Ross Creek during the field surveys.

The area just behind the Alamitos Drop Structure on Reach 13 was ponded during site surveys due to the temporary installation of a flashboard dam. Direct observation of OHW field indicators was, therefore, not possible. Limits of OHW were presumed to extend to the bases of riparian trees located near the pond perimeter, and on an island.

Areas identified in the report as potential jurisdictional wetlands are not included in this section, although all were confined to areas within tributary waters. Such areas are addressed separately, below, and acreage estimates for them are not included in acreage estimates for tributary waters.

TABLE 3
Locations and Amounts of Tributary Waters, Wetlands, Other Waters, and Total Jurisdictional Waters

Location	Sheet Nos.	Tributary Waters* (acres)	Wetlands (acres)	Other Waters (Percolation Ponds, [acres])	Total USACE Jurisdictional Waters (acres)
Reach A	1-4	0.25	0.80	—	1.06
Reach 6	5-6	2.08	0.19	—	2.27
Reach 7	7-10	3.88	0.03	—	3.91
Reach 8	10-11	1.06	0.02	—	1.08
Reach 9	12-15	4.68	0.06	—	4.74
Reach 10A	15-16	1.14	0.18	—	1.32
Reach 10B	16-18	2.67	2.34	—	5.01
Reach 10C	18-20	2.18	0.08	—	2.26
Reach 11A	20-22	2.84	0.15	—	2.99
Reach 11B	23	0.98	0.03	—	1.01
Reach 11C	23-24	1.18	0.07	—	1.25
Reach 12	25-28	9.79	2.52	3.44	15.75
Reach 13	29	1.14	3.02	—	4.16
Canoas Creek	30-32	1.34	0.05	—	1.39
Ross Creek	33-36	1.41	0.39	—	1.80
TOTAL		36.62	9.93	3.44	49.99

*Tributary waters acreage figures include only nonwetland areas below OHW.

Jurisdictional Wetlands

Areas meeting the technical criteria of jurisdictional wetlands within the project area are shown on Sheets 1-36 (oversize). Table 4 presents the sample location points and sheet numbers of all sample sites located within jurisdictional wetlands. All wetlands were located below OHW, within tributary waters.

Seasonal wetlands comprised the majority of wetlands within the project area. These wetlands consisted of herbaceous perennial and annual hydrophytes that grow in response to ephemeral flows. Locations and amounts of such wetlands may change from year to year in response to variable water availability variable channel bed configurations. Seasonal wetlands ranged from narrow intermittent strips adjacent to low-flow channels, to broad, densely vegetated areas on relatively level benches and bars. The more extensive wetlands were generally located in areas subject to previous alteration, such as just up and downstream of bridges, and in excavated or channelized reaches with no overstory such as Reach 10, Reach 12, Reach 13, and Ross Creek.

Freshwater marsh vegetation indicative of longer-term regular inundation was uncommon, but occasionally present. Most freshwater marsh vegetation occurred in the upstream portions of spreader dam inundation zones on Reach 12 (note: the dams were not installed this year and these areas were not inundated), in Reach 13 near the Alamitos Drop Structure, and on Reach A. Freshwater marsh species occurred both in relatively discrete clusters and in combination with seasonal wetlands vegetation.

Typical species of the seasonal wetlands include swamp knotweed (*Polygonum hyrdropiperoides,* OBL), willow weed (*Polygonum lapathifolium*, OBL), rabbitfoot grass (*Polypogon monspeliensis*, FACW), cocklebur (*Xanthium strumarium*, FAC+), barnyard grass (*Echinochloa crus-galli*, FACW), watercress *(Rorippa nasturtium-aquaticum*, OBL), water speedwell (*Veronica anagallis-aquatica*, OBL), willow herb (*Epilobium ciliatum* var. *ciliatum*, FACW), dallis grass (*Paspalum dilataum,* FAC), tall umbrella sedge (*Cyperus eragrostis*, FACW), marsh purslane (*Ludwigea peploides*, OBL), curley dock (*Rumex cripus*, FACW), sweet fennel (*Foeniculum vulgare*, FACW), Bermuda grass (*Cynodon dactylon*, FAC), and white sweetclover (*Melilotus albus*, FACU+). An unidentified grass was the primary dominant of most of the relatively extensive wetlands on Reach 10. The grass was growing in inundated areas at lower elevations than known hydrophytes and was, therefore, presumed to be hydrophytic.

Freshwater marsh vegetation included narrow-leaved cattail (*Typha angustifolia*), hard-stem bulrush (*Scirpus acutus*), and burreed (*Sparganium eurycarpum*).

Soils and Hydrology

All areas below OHW were presumed to meet the technical criteria for wetland hydrology and soils because water is presumed to be present up to the OHW levels in the channel on a regular basis during the rainy season (for at least 5 percent of the growing season) resulting in soils that are either saturated or inundated for long duration. Such saturation may also extend just beyond the OHW levels in some locations, leading to saturation of "fringing" soils immediately outside the limits of OHW.

All potential wetland areas were located below OHW and, therefore, presumed to meet the technical criteria for wetlands hydrology and soils. Nevertheless, field sampling to ascertain the presence of any additional indicators of wetland hydrology and soils was conducted. Additional field indicators were often, but not always present. A summary description of the additional soil and hydrological features of the wetland sample points is given below.

At many of the sample sites, no additional field indicators of wetland soils were observed. Wetland soils were often composed of course materials including sands, gravels, and cobbles. No soil colors were obtained from such "soils," and no additional hydric indicators were observed. At numerous sites, soils with greater silt or clay content (at least in the upper few inches) were present. Corresponding soil matrix colors included 10 YR 3/2, 10 YR 2/2, 7.5 YR 3/2, and 5 YR 3/2, with no mottles. The relatively high sand content and loose structure in these soils may preclude the development of mottling.

Soils with low chromas and mottling (additional indicators of hydric soils) were present in five of the ten wetland sample locations on Reach A, one sample point each on Reaches 6, 7, and 10 and in five sample locations in Reach 12. Colors included those listed above as well as 2.5 Y 4/2 and 2.5 Y 4/1. These soils generally had more clay than did the wetland soils without mottling. Mottles colors included 2.5 YR 5/8, 2.5 YR 6/8, 5 YR 5/8, 7.5 YR 5/8, and 10 YR 5/8.

Wetland soils were inundated in several locations, resulting in direct observation of an aquic moisture regime. No further sampling for field indicators was performed in such locations.

Nearly ¾ of the wetland sample points exhibited additional field indicators of wetland hydrology. These included shallow inundation, saturation of soils (particularly at the lower edges of wetlands), drainage pattern in wetlands, sediment deposits, drift lines, algal mats, oxidized rhizospheres (infrequent), and matted vegetation.

TABLE 4
Sample Points Located Within Areas Meeting the Technical Criteria of Jurisdictional Wetlands

Transect No.[1]	Sample Point	Sheet No.
A-1	B	4
A-2	B	3
A-3	B	3
A-4	B	3
A-5	B	2
A-6	B	2
A-7	B	2
A-8	B	2
A-9	B	1
A-10	B	1
6-1	B	6
6-2	B	5
6-3	B	5
7-1	B	10
7-2	B	8
9-1	B	13
9-2	B	12
10-1	B	20
10-2	B	17
10-3	B	18
10-3	C	18
10-4	B	17
11-1	B	24
11-2	B	24
11-3	B	23
11-4	B	21
12-1	B	24
12-2	B	25
12-3	B	26
12-4	B	26
12-4	C	27
12-5	B	27
12-5	C	27
12-6	B	27
12-6	C	27
12-7	B	28
12-7	D	28
13-1	B	29
13-2	B	29
13-2	B	29
R[2]-1	B	33
R-2	B	34
R-3	B	34
R-4	B	35

[1] The first number indicates the reach on which the transect is located.
[2] Ross Creek

"Other Waters"

Portions of two off-stream percolation ponds were located within the project area, adjacent to Reach 12. Water levels at the time of site surveys were high and appeared to be at their maximum (OHW) level. The ponds were unvegetated.

AREAS NOT MEETING THE REGULATORY DEFINITION OF JURISDICTIONAL WATERS

No portions of the project area situated above the OHW marks met the regulatory definition of jurisdictional waters. These upland areas comprised developed/landscaped, riparian forest, ruderal grassland, ruderal scrub, and agricultural habitats, described briefly below.

Developed/Landscaped areas comprised commercial and residential properties and open areas such as gravel and dirt roadways. Landscape vegetation, consisting of nonnative trees, shrubs, and herbs was often associated with developed areas.

Riparian Forest occurred intermittently on the banks of the River. The density of cover and continuity of riparian forest was variable; little or no forest vegetation was present on Reaches A, 10, and 12, and Ross and Canoas Creeks. The overstory consisted of numerous native tree species including coast live oak (*Quercus agrifolia*, UPL), valley oak (*Quercus lobata*, FAC), California sycamore (*Platanus racemosa*, FACW), blue elderberry (*Sambucus mexicana*, FAC), Fremont cottonwood (Populus fremontii, FACW), box elder (*Acer negundo*, FACW), and arroyo and red willows (*Salix lasiolepis* and *Salix laevigata*, FACW). Nonnative tree species were also present and ranged in abundance from sparse to dominant. Typical species included blue gum eucalyptus (*Eucalyptus globulus*, UPL), black locust (*Robinia pseudo-acacia*, FAC), Peruvian pepper tree (*Schinus molle*, UPL), privet (*Ligustrum* sp., UPL), and elm (*Ulmus* sp., UPL). Nonnative and common native shrubs and herbs typical of disturbed habitats occupied the understory. These included Himalayan blackberry (FACW), poison oak (*Toxicodendron diversilobum*), and ripgut grass (*Bromus diandrus,* UPL).

Ruderal (weedy) grassland occurred both on and above the channel banks. Typical species included wild oats (*Avena fatua*, UPL), ripgut grass, field mustard (*Brassica rapa*, UPL), smilo grass (*Piptatherum milaceum*, UPL), and wild radish (*Raphanus sativus*, UPL).

Ruderal scrub also occurred both on and above the channel banks. Coyote brush (*Bacharris pilularis,* UPL), Himalayan black berry (FACW), and poison oak (UPL) were common components.

Small portions of an old orchard and row crop field adjacent to Reaches 10 and 12 comprised the **Agricultural** habitat of the project area.

Nonwetland Sample Site Summary

All nonwetland data sample points (reference points located just outside wetlands) were located on the banks of the river and creek channels, just above OHW. These areas were vegetated with species of the understory of the riparian forest (often disturbed), ruderal grassland, and ruderal scrub habitats. The vegetation generally consisted of upland species, a mixture of upland and facultative species or phreatophytes. Bare banks and barren cobble bars were also located above OHW.

All areas located above the OHW marks were generally devoid of hydrologic features characteristic of wetlands or areas below OHW. On occasion, however, scoured soils, exposed roots, and stranded debris were present well above the estimated level of OHW. These features were presumed to be anomalous, as described in Observation No. 2 above.

Hydric soil characteristics were absent from the majority of the upland sample sites. Soil chromas of 10 YR 3/2 were most common, chromas of 10 YR 3/3, 10 YR 2/2, 7.5 3/2, and 5 YR 3/2 also present. Mottles were absent. The substrate at some upland sample points consisted of shallow sediments collected over rock-protected slopes, riprap, assorted fill materials, and poured concrete. Where soils were extremely hard, compacted, or rocky, sample pits either could not be dug or were dug only to a few inches below the surface.

Soils from upland areas of the banks in some sites on Reaches A and had hydric soil characteristics (Points A-2A, A-8A, 6-1A, 6-2A, and 6-3A). Soils chromas included 10 YR 3/2 (matrix), 2.5 YR 5/8 (mottles) and 10 YR 3/2 (matrix), 7.5 YR 5/8 (mottles). Chromas below OHW here were similar, but had more abundant mottling and higher clay content.

On Reach 6, hydric characteristics were found even in soils far above the sample points near the top of the banks (several feet above OHW). Chromas included 7.5 YR 3/2 (matrix), 5 YR 5/8 (mottles) and 10 YR 3/1 (matrix), 5 YR 5/8 (mottles). As in Reach A, features of the soils below OHW and above OHW differed. Soils below OHW contained much more sand and gravel and did not exhibit mottling. Matrix chromas below were 10 YR 3/2 and 2/2. Dark streaking of embedded clay layers (2.5 N) was present on 6-3B.

These hydric soil characteristic may represent historical soil conditions, particularly in Reach A, where the channel bed and banks were reconfigured 20 to 30 years ago.

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APPENDIX A
Plants of the Upper Guadalupe River Flood Control Project Site

APPENDIX A
VASCULAR PLANTS OF THE UPPER GUADALUPE RIVER PROJECT SITE

Species	Common Name Status	Indicator Status
* **ACERACEAE**		
Acer negundo ssp. *californicum*	California Box Elder	FACW
Acer saccharinum	Silver Maple	—
* **AGAVACEAE**		
Agave sp.	Century Plant	UPL
Dracaena sp.	Dracaena	UPL
* **AMARANTHACEAE**		
Amaranthus retroflexus	Green Amaranth	FACU
* **ANACARDIACEAE**		
Cotinus coggygria	Smoke Tree	UPL
Pistacia chinensis	Chinese Pistache	UPL
Schinus molle	California Pepper Tree	UPL
Toxicodendron diversilobum	Poison Oak	UPL
* **APIACEAE (UMBELLIFERAE)**		
Conium maculatum	Poison Hemlock	FACW
Foeniculum vulgare	Sweet Fennel	FACU
Sanicula crassicaulis	Pacific Sanicle	UPL
* **APOCYNACEAE**		
Vinca major	Periwinkle	UPL
Nerium oleander	Oleander	UPL
* **ARALIACEAE**		
Hedera helix	English Ivy	UPL
Hedera canariensis	Algerian Ivy	UPL
* **ASTERACEAE**		
Achillea millefolium	Common Yarrow	FACU
Ambrosia psilostachya	Ragweed	FAC
Anthemis cotula	Mayweed	FACU
Artemisia biennis	Sagewort	UPL
Artemisia californica	California Sage	UPL
Artemisia douglasiana	California Mugwort	FACW
Aster chilensis	Aster	FAC
Aster subulatus	Slim Aster	FACW
Baccharis douglasii	Douglas' Baccharis	OBL
Baccharis pilularis	Coyote Brush	UPL

	Common Name	
Species	**Status**	**Indicator**
Baccharis salicifolia	Mule Fat	FACW
Bidens frondosa	Stick Tight	FACW
Brickellia californica	California Bricklebush	FACU
Carduus pycnocephalus	Italian Thistle	UPL
Centaurea solstitialis	Yellow Star Thistle	UPL
Chrysanthemum parthenium	Feverfew	UPL
Cirsium vulgare	Common Thistle	UPL
Conyza canadensis	Horseweed	UPL
Euthamia occidentalis	Western Goldenrod	OBL
Gnaphalium californicum	California Cudweed	UPL
Gnaphalium sp.	Cudweed	—
Hemizonia luzulaefolia ssp. *rudis*	Hayfield Tarweed	UPL
Heterotheca oregona	Golden Aster	UPL
Lactuca serriola	Prickly Lettuce	FAC
Lactuca virosa	Wild Lettuce	UPL
Matricaria matricarioides	Pineapple Weed	FACU
Picris echioides	Bristly Ox-tongue	FAC
Senecio mikanioides	German Ivy	UPL
Senecio vulgaris	Common Groundsel	UPL
Silybum marianum	Milk Thistle	UPL
Sonchus asper	Prickly Sow Thistle	FAC
Sonchus oleraceus	Common Sow Thistle	NI
Tragopogon sp.	Salsify	UPL
Xanthium spinosum	Spiny Cocklebur	FAC+
Xanthium strumarium	Cocklebur	FAC+
* **BETULACEAE**		
Alnus rhombifolia	White Alder	FACW
Betula pendula	White Birch	—
* **BIGNONIACEAE**		
Catalpa sp.	Catalpa	UPL
* **BRASSICACEAE**		
Brassica rapa	Mustard	UPL
Brassica nigra	Black Mustard	UPL
Heliotropium curassavicum	Heliotrope	OBL
Lepidium latifolium	Perennial Peppergrass	FACW
Lepidium nitidum	Pepper Grass	UPL
Lobularia maritima	Sweet Alyssum	UPL
Raphanus sativus	Wild Radish	UPL
Rorippa nasturtium-aquaticum	Watercress	OBL
* **BORAGINACEAE**		
Heliotropium curassavicum	seaside helioptrope	OBL

Species	Common Name Status	Indicator
* **CACTACEAE**		
Opuntia occidentalis	Prickly Pear	UPL
* **CAPRIFOLIACEAE**		
Sambucus mexicana	Blue Elderberry	FAC
Symphoricarpos albus	Snowberry	FACU
Viburnum sp.	Viburnum	UPL
* **CARYOPHYLLACEAE**		
Stellaria media	Chickweed	FACU
* **CASUARINACEAE**		
Casuarina cunninghamiana	Beefwood	UPL
* **CELASTRACEAE**		
Euonymus japonica	Evergreen Burning Bush	UPL
Maytenus boaria	Mayten Tree	UPL
* **CHENOPODIACEAE**		
Beta vulgaris	Cultivated Beet	FACU
Chenopodium album	Lambsquarters	FAC
Chenopodium ambrosioides	Mexican Tea	FAC
Chenopodium sp.	Goosefoot	—
Salsola kali var. *tenuifolia*	Russian Thistle	FACU+
* **CONVALLARIACEAE**		
Asparagus densiflorus var. *sprengeri*	Asparagus Fern	UPL
* **CONVOLVULACEAE**		
Convolvulus arvensis	Bindweed	UPL
* **CUCURBITACEAE**		
Marah fabaceus	Wild Cucumber	UPL
* **CUPRESSACEAE**		
Cupressus sp.	Cypress	UPL
Juniperus sp.	Juniper	UPL
Thuja occidentalis	American Arborvitae	UPL
Thuja orientalis	Oriental Arborvitae	UPL
* **CUSCUTACEAE**		
Cuscuta sp.	Dodder	—
* **CYPERACEAE**		
Carex sp.	Sedge	—
Cyperus esculentus	Nut Grass	FACW
Cyperus eragrostis.	Tall umbrella sedge	FACW

Species	Common Name Status	Indicator
Cyperus alternifolius	Alternate Leaf Flatsedge	OBL
Scirpus acutus var. *occidentalis*	Hardstem Bulrush	OBL
Scirpus microcarpus	Panicled Bulrush	OBL
* **DIPSACACEAE**		
Dipsacus fullonum	Teasel	UPL
* **EBENACEAE**		
Diospyros virginiana	Persimmon	UPL
* **EQUISETACEAE**		
Equisetum arvense	Common Horsetail	FAC
* **ERICACEAE**		
Xylosma congestum	Xylosma	UPL
* **EUPHORBIACEAE**		
Eremocarpus setigerus	Turkey Mullein	UPL
Euphorbia lathyris	Gopher Spurge	UPL
Ricinus communis	Castor Bean	FACU
* **FABACEAE (LEGUMINOSAE)**		
Albizia julibrissin	Silk Tree	UPL
Ceratonia siliqua	Carob	UPL
Cercis canadensis	Eastern Redbud	UPL
Cytisus sp.	Broom	UPL
Lotus corniculatus	Bird's Foot Trefoil	FAC
Lotus scoparius	Deerweed	UPL
Medicago polymorpha	Bur Clover	UPL
Melilotus alba	White Sweetclover	FACU+
Melilotus indica	Yellow Sweetclover	FAC
Psoralea physodes	California Tea	UPL
Robinia pseudo-acacia	Black Locust	FAC
Trifolium obtusiflorum	Clover	FACW
Trifolium tridentatum	Tomcat Clover	UPL
Vicia americana	American Vetch	NI
Vicia dasycarpa	Thick-fruited Vetch	UPL
* **FAGACEAE**		
Quercus agrifolia	Coast Live Oak	UPL
Quercus douglasii	Blue Oak	UPL
Quercus ilex	Holly Oak	UPL
Quercus lobata	Valley Oak	FAC
* **FUMARIACEAE**		
Fumaria parviflora	Small-flowered Fumitory	UPL

Species	Common Name Status	Indicator
* **GERANIACEAE**		
Erodium botrys	Long-beaked Filaree	UPL
Erodium cicutarium	Red-stemmed Filaree	UPL
Geranium dissectum	Cut-leaved Geranium	UPL
Pelargonium dissectum	Geranium	UPL
* **GINKGOACEAE**		
Ginkgo biloba	Maidenhair Tree	UPL
* **HAMAMELIDACEAE**		
Liquidambar styraciflua	Sweet Gum	UPL
* **HIPPOCASTANACEAE**		
Aesculus californica	California Buckeye	UPL
* **HYDROPHYLLACEAE**		
Pholistoma auritum	Fiesta Flower	UPL
* **IRIDACEAE**		
Iris sp.	Iris	UPL
* **JUGLANDACEAE**		
Juglans californica var. hindsii	California Black Walnut	FAC
Juglans regia	English Walnut	UPL
* **JUNCACEAE**		
Eleocharis sp.	Spike Rush	≥FACW
Juncus effusus	Soft Rush	OBL
* **LAMIACEAE**		
Marrubium vulgare	Horehound	FAC
Mentha arvensis	Field Mint	FACW
Stachys sp.	Hedge Nettle	—
* **LAURACEAE**		
Cinnamomum camphora	Camphor Tree	UPL
Laurus nobilis	English Bay	UPL
Persea americana	Avocado	UPL
Umbellularia californica	California Bay	FAC
* **LILIACEAE**		
Chlorogalum pomeridianum	Soap Root	UPL
* **LOGANIACEAE**		
Buddleia davidii	Summer Lilac	UPL
* **LYTHRACEAE**		

Species	**Common Name Status**	**Indicator**
Lagerstroemia indica	Crape Myrtle	UPL
Lythrum sp.	Loosestrife	—
* **MAGNOLIACEAE**		
Liriodendron tulipifera	Tulip Tree	UPL
Magnolia grandiflora	Magnolia	UPL
Magnolia tripetala	Umbrella Tree	UPL
* **MALVACEAE**		
Malva neglecta	Mallow	UPL
Malva parviflora	Mallow	UPL
Sidalcea malvaeflora	Checker Bloom	UPL
* **MIMOSACEAE**		
Acacia decurrens	Green Wattle	UPL
Acacia longifolia	Golden Wattle	UPL
Acacia melanoxylon	Black Acacia	UPL
Mimosa sp.	Mimosa	UPL
* **MORACEAE**		
Ficus carica	Fig	UPL
Morus nigra	Black Mulberry	UPL
* **MYOPORACEAE**		
Myoporum laetum	Myoporum	UPL
* **MYRTACEAE**		
Callistemon lanceolatus	Lemon Bottlebrush	UPL
Eucalyptus globulus	Blue Gum	UPL
Eucalyptus sp.	Eucalyptus	UPL
Eugenia myrtifolia	Brush-cherry	UPL
Myrica cerifera	Wax-myrtle	UPL
Myrica gale	Sweet Gale	UPL
Myrica pensylvanica	Bayberry	UPL
Psidium guajava	Guava	UPL
* **OLEACEAE**		
Fraxinus uhdei	Evergreen Ash	UPL
Fraxinus velutina	Ash	UPL
Ligustrum lucidum	Glossy Privet	UPL
Olea europaea	Willow-leaved Olive	UPL
Olea sp.	Olive	UPL
* **ONAGRACEAE**		
Epilobium brachycarpum	Panicled Willow Herb	UPL
Epilobium ciliatum.	Willow Herb	FACW
Ludwigia peploides	Water-primrose	OBL

Species	Common Name Status	Indicator
Oenothera hookeri	Hooker Evening Primrose	—
Zauschneria californica	California Fuschia	—
* **OXALIDACEAE**		
Oxalis pes-caprae	Bermuda Buttercup	—
* **PALMAE**		
Washingtonia sp.	Palm	UPL
Phoenix sp.	Date Palm	UPL
* **PAPAVERACEAE**		
Eschscholzia californica	California Poppy	UPL
* **PINACEAE**		
Cedrus deodara	Deodar Cedar	UPL
Pinus sp.	Pine	UPL
Pinus radiata	Monterey Pine	UPL
* **PITTOSPORACEAE**		
Pittosporum sp.	Pittosporum	UPL
* **PLANTAGINACEAE**		
Plantago lanceolata	English Plantain	FAC-
Plantago major	Broad Leaf Plantain	FACW-
* **PLATANACEAE**		
Platanus racemosa	Sycamore	FACW
* **POACEAE (GRAMINEAE)**		
Agrostis stolonifera	Creeping Bent	FACW
Arundo donax	Giant Reed	FACW
Avena barbata	Slender Wild Oat	UPL
Avena fatua	Wild Oat	UPL
Avena sativa	Cultivated Oat	UPL
Bambusa sp.	Bamboo	UPL
Bromus carinatus	California Brome	UPL
Bromus diandrus	Ripgut Brome	UPL
Bromus mollis	Soft Chess	UPL
Cortaderia selloana	Pampas Grass	UPL
Crypsis schoenoides	Swampgrass	OBL
Cynodon dactylon	Bermuda Grass	FAC
Echinochloa crus-galli	Barnyard Grass	FACW
Elymus triticoides	Alkali Rye Grass	FAC
Glyceria leptostachya	Manna Grass	OBL
Hordeum murinum ssp. *leporinum*	Farmer's Foxtail	UPL
Leptochloa fascicularis	Sprangle Top Grass	OBL
Lolium perenne	Italian Ryegrass	FAC

Species	Common Name Status	Indicator
Melica californica	Western Melica	UPL
Nasella lepida	Small-flowered stipa	UPL*Epilobium*
brachycarpum	Panicled Willow Herb	UPL
Paspalum dilatatum	Dallis Grass	FAC
Paspalum distichum	Knot Grass	OBL
Phalaris paradoxa	Canary Grass	UPL
Piptatherum miliaceum	Smilo Grass	UPL
Poa annua	Annual Bluegrass	FACW
Polypogon monspeliensis	Rabbitsfoot Grass	FACW
Setaria sp.	Brittle Grass	—
Sorghum halepense	Barnyard Grass	FACW
Lepida	Small-flowered Stipa	UPL
Vulpia myuros	Rattail Fescue	FACU
* **PODOCARPACEAE**		
Podocarpus gracilior	Fern Pine	UPL
Podocarpus macrophyllus	Yew Pine	UPL
* **POLYGONACEAE**		
Eriogonum sp.	Buckwheat	—
Polygonum amphibian var. *emersum*	Water Smartweed	OBL
Polygonum arenastrum	Common Knotweed	FAC
Polygonum sp.	Smartweed	—
Polygonum hydropiper	Water Pepper	OBL
Polygonum hydropiperoides	Swamp Smartweed	OBL
Polygonum lapathifolium	Willow Weed	OBL
Polygonum punctatum	Water Smartweed	OBL
Rumex conglomeratus	Green Dock	FACW
Rumex crispus	Curly Dock	FACW
Rumex pulcher	Fiddle Dock	FAC+
* **PORTULACACEAE**		
Claytonia perfoliata	Miner's Lettuce	UPL
Portulaca oleracea	Purslane	FAC
* **PRIMULACEAE**		
Anagallis arvensis	Scarlet Pimpernel	FAC
* **PROTEACEAE**		
Grevillea robusta	Silk-oak	—
* **RANUNCULACEAE**		
Ranunculus californicus	California Buttercup	FAC
Clematis ligusticifolia	Virgin's Bower	FAC
* **RHAMNACEAE**		
Rhamnus alaternus	Italian Buckthorn	UPL

Species	Common Name Status	Indicator
Rhamnus californica	Coffeeberry	UPL
Rhamnus crocea	Red-berry	UPL
* **ROSACEAE**		
Cydonia oblonga	Quince	UPL
Cotoneaster sp.	Cotoneaster	UPL
Eriobotrya japonica	Loquat	UPL
Heteromeles arbutifolia	Toyon	UPL
Malus sylvestris	Apple	UPL
Photinia sp.	Photinia	UPL
Prunus amygdalus	Almond	UPL
Prunus armeniaca	Apricot	UPL
Prunus cerasifera	Cherry Plum	UPL
Prunus persica	Peach	UPL
Prunus sp.	Flowering Plum	UPL
Pyracantha sp.	Firethorn	UPL
Pyrus kawakamii	Evergreen Pear	UPL
Rosa sp.	Rose	UPL
Rosa californica	California Rose	UPL
Rubus discolor	Himalayan Blackberry	FACW
Rubus ursinus	Blackberry	FACW+
* **RUBIACEAE**		
Galium aparine	Bedstraw	FACU
* **RUTACEAE**		
Citrus limon	Lemon	UPL
Citrus sinensis	Orange	UPL
* **SALICACEAE**		
Populus fremontii	Fremont Cottonwood	FACW
Populus nigra	Lombardy Poplar	----
Salix babylonica	Weeping Willow	FACW
Salix hindsiana	Sandbar Willow	OBL
Salix laevigata	Red Willow	FACW
Salix lasiolepis	Arroyo Willow	FACW
* **SCROPHULARIACEAE**		
Kickxia elatine	Sharp-point Fluellin	NI
Kickxia spuria	Round-leaved Fluellin	UPL
Mimulus guttatus	Seep monkeyflower	OBL
Scrophularia californica	California Bee Plant	FAC
Verbascum thapsus	Mullein	UPL
Veronica persica	Persian Speedwell	UPL
Veronica anagallis-aquatica	Water Speedwell	OBL

Species	Common Name Status	Indicator
* **SIMARUBACEAE**		
Ailanthus altissima	Tree-of-Heaven	FACU
* **SOLANACEAE**		
Datura stramonium	Jimson Weed	UPL
Lycopersicon esculentum	Tomato	UPL
Nicotiana glauca	Tree Tobacco	FAC
Solanum nodiflorum	Black Nightshade	FAC
Solanum umbelliferum	Blue Witch	UPL
* **SPARGANIACEAE**		
Sparganium eurycarpum	Broad-fruited Burreed	OBL
* **TAMARICACEAE**		
Tamarix parviflora	Tamarisk	FAC
* **TAXODIACEAE**		
Sequoia sempervirens	Coast Redwood	UPL
* **TYPHACEAE**		
Typha angustifolia	Narrow-leaved Cat-tail	OBL
Typha latifolia	Broad-leaved Cat-tail	OBL
* **ULMACEAE**		
Ulmus carpinifolia	Smooth Leaf Elm	UPL
Ulmus procera	English Elm	UPL
* **URTICACEAE**		
Parietaria floridana	Florida Pellitory	NI
Parietaria judaica	Judean Pellitory	UPL
Urtica holosericea	Hoary Nettle	FACW
* **VISCACEAE (LORANTHACEAE)**		
Phoradendron flavescens var. *villosum*	Oak Mistletoe	UPL
* **VITACEAE**		
Vitis californica	California Wild Grape	FACW

KEY TO WETLAND INDICATOR STATUS

FAC—Facultative. These species will occur in wetlands and nonwetlands equally (50 percent probability).

FACU—Facultative Upland. Plants predominately occur in nonwetlands, but are occasionally found in wetlands (percent to 33 percent probability).

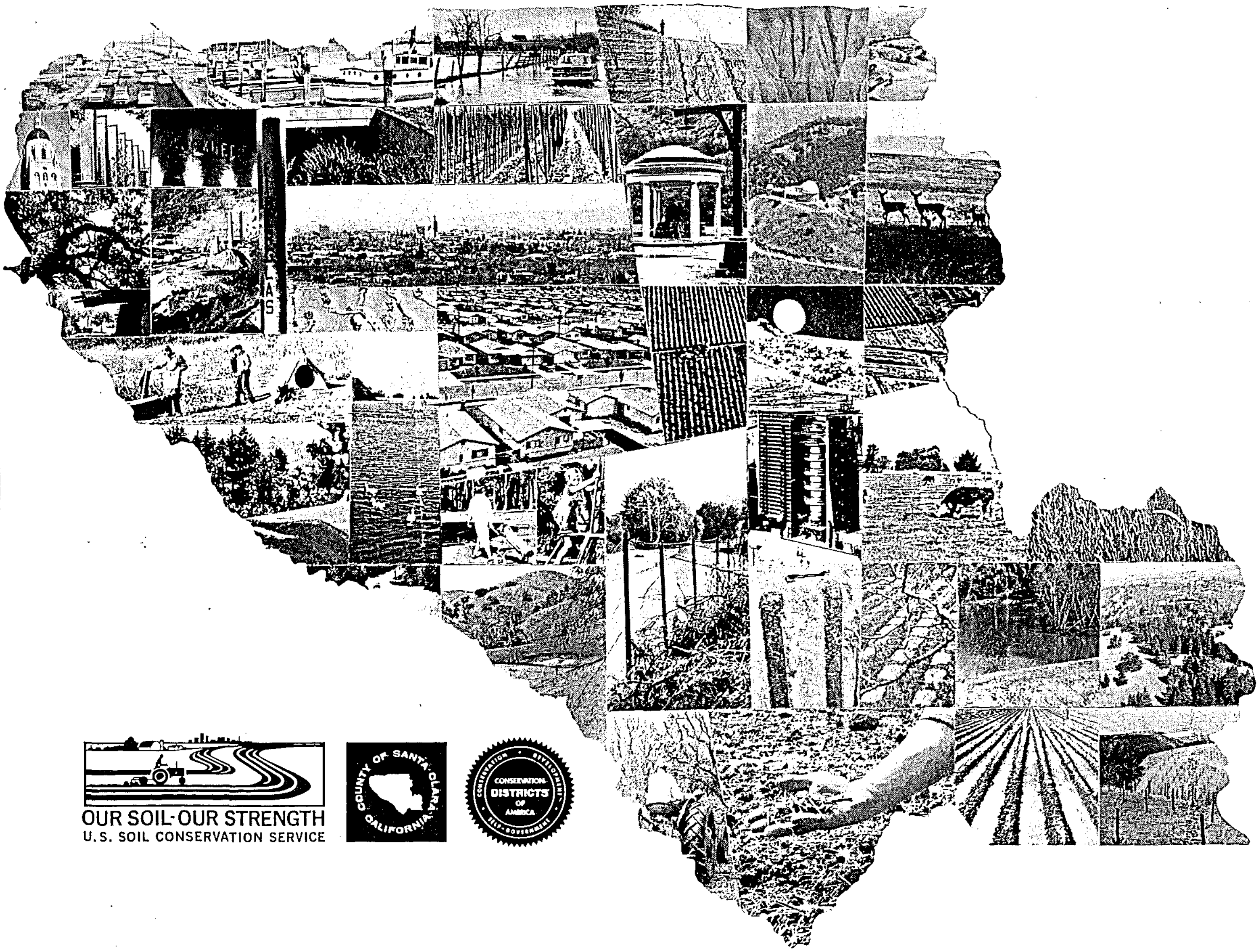
FACW—Facultative Wetland. Plants usually occur in wetlands, but may occur in nonwetland areas (67 percent to 99 percent probability).

OBL—Obligate Wetland. In natural conditions, these species nearly always occur in wetlands (99 percent probability).

UPL—Upland. These species almost always occur in nonwetlands in natural conditions (99 percent probability) within the specified region, yet may occur in wetlands of another region.

APPENDIX B
Soils of the Upper Guadalupe River Flood Control Project Site

SOILS OF SANTA CLARA COUNTY



OUR SOIL-OUR STRENGTH
U.S. SOIL CONSERVATION SERVICE

Prepared by the United States Department of Agriculture, Soil Conservation Service, in cooperation with and for the County of Santa Clara Planning Department, the Santa Clara County Flood Control and Water District, and the Black Mountain, Evergreen, and Loma Prieta Soil Conservation Districts.

nonplastic; few fine and coarse,abundant medium root many very fine interstitial and fine tubular few medi and coarse tubular pores; few thin clay films on ped faces and in pores; strongly acid (pH 5.5); clear wav boundary. (10 to 20 inches thick).

C 43 to 60 inches, very pale brown (10YR 7/4) very fine sandy loam, yellowish brown (10YR 5/4) moist; massive soft, very friable, nonsticky and nonplastic wet; few medium roots; many very fine interstitial and fine tub lar, few medium and coarse tubular pores; strongly aci (pH 5.5). This horizon is soft sandstone that is easi cut by hand tools.

Surface soil color is dark grayish brown or grayish bro and occasionally may be dark brown. Texture is generall a fine sandy loam but may range to a coarse loam. Colo of the subsoil are dark brown to brown and the texture about the same as the surface only slightly finer. Reaction of the surface is slightly acid, characteristicall decreasing to medium acid in the subsoil to strongly aci in the substratum. Depth to soft sandstone substratum will vary from 33 to 60 inches, but will average a littl over 36 inches.

Included in mapping this soil are 7 percent Felton silt loam; along drainageways and north slopes, 5 percent Los Gatos gravelly loam; and along ridge crests 3 percent Maymen rocky fine sandy loam.

This well drained soil has an average water holding capacity of about 5 to 8 inches. Natural fertility is moderate. Subsoil permeability is moderately rapid. Surface runoff is very rapid and the erosion hazard is very high. Rooting depth is deep.

The main use of this soil is for recreation, watershed, and a few areas are used for timber production. The very steep slopes create an erosion problem when the areas are logged. The soil is moderately productive, with an average site index of 120 6/. Windthrow hazard is slight and plant competition and seedling mortality is moderate. Capability unit VIIel (4).

CAMPBELL SERIES

The Campbell series consists of somewhat poorly drained, moderately fine textured soils underlain by mottled, stratified mixed but mostly sedimentary alluvium. They formed on low level valley bottoms and alluvial plain positions, surrounding areas of poorly drained soils. Vegetation is chiefly annual and perennial grasses and forbs. Elevations range from 130 to 300 feet. Mean annual rainfall

16 to 20 inches; mean annual air temperature is about 58 to F. The growing season is about 260 to 300 days. Yolo and ear Lake are the principal associated soils.

surface soil is a dark gray mildly alkaline silty clay and ilty clay loam, averaging from 22 to 28 inches thickness. subsoil is a mottled dark gray calcareous silty clay loam, nging in thickness from 12 to 15 inches. Substratum material nsists of mottled light olive brown calcareous silty clay loam alluvium.

e Campbell soils are used for irrigated row crops, sugar beets, d orchard crops.

mpbell silty clay loam (Ca). This soil is level, averaging ess than 1 percent slope.

epresentative profile: In the first tree row, on south side of road, in an orchard 1/2 mile west on Laguna Avenue from Southern acific railroad tracks in the N. W. 1/4 of the S. W. 1/4 of Sec. 35, T. 8 S., R. 2 E., Santa Clara County, California.

Ap 0 to 8 inches, dark gray (10YR 4/1) silty clay loam, very dark gray (10YR 3/1) moist; massive; hard, friable, slightly sticky and plastic; plentiful fine and very fine roots; many fine and very fine interstitial pores, few fine and very fine tubular pores; mildly alkaline (pH 7.5); abrupt smooth boundary. (6 to 8 inches thick).

A12 8 to 27 inches, dark gray (10YR 4/1) silty clay loam, very dark gray (10YR 3/1) moist; massive; hard, friable, slightly sticky and plastic; few fine and plentiful medium roots; abundant fine, very fine and a few medium tubular pores, many very fine and fine interstitial pores; mildly alkaline (pH 7.5); gradual smooth boundary. (16 to 20 inches thick).

A13 27 to 40 inches, dark gray (5Y 4/1) silty clay loam, very dark gray (5Y 3/1) moist, with common fine distinct mottles light olive brown (2.5Y 5/4) dry, olive brown (2.5Y 4/4) moist; weak medium and fine subangular blocky structure; hard, friable, slightly sticky and plastic; few very fine, fine and medium roots; many very fine, fine and a few medium tubular pores; slightly calcareous, moderately alkaline (pH 8.0); very diffuse smooth boundary. (12 to 15 inches thick).

C 40 to 68 inches, light olive brown (2.5Y 5/4) silty clay loam, olive brown (2.5Y 4/4) moist, common fine faint mottles light yellowish brown (10YR 6/4) dry, dark yellowish brown (10YR 4/4) moist, with bands of light gray (10YR 6/1 dry and gray (10YR 5/1) moist; massive; hard, friable, slightly sticky and plastic; few very fine, fine and medium roots; many very fine, fine and a few medium tubular pores; slightly calcareous, moderately alkaline.

Surface soil color is typically dark gray, but may be dark grayish brown or grayish brown. Texture is a silty clay loam or clay loam, and the reaction is mildly alkaline. Colors of the subsoil may be light olive brown, light brownish gray or grayish brown, with many fine to medium light yellowish brown and light gray mottles. Texture will average a silty clay loam but may be stratified with silty clay. Lime occurs at an average depth of 30 inches, but occasionally may be below 60 inches.

Included in mapping this soil are 10 percent Yolo silty clay loam and 5 percent Clear Lake clay.

The intermittently high watertable that existed during the development of this soil, is below the zone that will affect crops at the present time. Permeability is moderately slow and runoff is very slow. Fertility is high and the soil holds about 10 to 11 inches of water plants can use. Rooting depth is very deep.

This soil is used for irrigated row crops, sugar beets, irrigated prunes, walnuts, apricots and pears. Capability unit I-1 (14).

Campbell silty clay (Cd). Except for being a silty clay, with a few areas on the surface horizon that contain about 6 percent medium and fine gravel, this soil is similar to Campbell silty clay loam. Areas of this soil may be flooded about once in 5 years. Permeability is slow. Included in mapping are areas that are calcareous on the surface, 10 percent; and 5 percent Clear Lake clay.

This soil is used for irrigated row crops, sugar beets, prunes, walnuts, apricots and pears. Capability unit IIs5 (14).

Campbell silty clay loam, clay substratum (Cc). This soil occurs as small to moderately sized areas south of Pacheco Pass Highway, just east of Miller Slough, and may be flooded about once every 10 years. The surface soil may be silty clay loam, clay loam or silty clay. Color will range from dark gray to dark grayish brown; mottling occurs just below 18 inches. The substratum, at an average depth of 36 inches, is dark gray clay. The water table is below 60 inches, except for a few areas having a seasonal water table at 36 inches. Average water holding capacity is 6 to 9 inches. Otherwise, this soil is similar to Campbell silty clay loam. Included in mapping this soil are areas of gravelly clay loam texture, and areas where depth to very dark gray clay is only 20 inches.

This soil is used for irrigated row crops and sugar beets. Capability unit IIIw5 (14).

Campbell silty clay, muck substratum (Ce). The surface of this soil consists of silty clay, clay loam or silty clay loams texture. Color may be dark gray, dark grayish brown or grayish brown; mottling occurs just below 18 inches. The substratum at an average depth of 38 inches, consists of about 70 percent mucky material and 30 percent gleyed clay. When the levees along Llagas Creek break, flooding may cause deposition. This soil has an average water holding capacity of 7 to 8 inches. Rooting depth is restricted by a seasonal watertable at depths of 30 to 40 inches. Otherwise, this soil is similar to Campbell silty clay loam. Included in mapping are areas of grayish brown clay loam, 3 to 15 inches deep over the normal dark gray silty clay loam; areas that are calcareous on the surface, and areas containing slight concentrations of neutral salts.

This soil is used for irrigated row crops and sugar beets. Capability unit IIIw5 (14).

CASTRO SERIES

The Castro series consists of poorly drained, fine textured soils underlain by gleyed sedimentary alluvium. These soils formed on low level positions of the alluvial plains at elevations ranging from 30 to 100 feet. Vegetation is water-loving plants, grasses and forbs. Mean annual rainfall is 16 to 20 inches; mean annual air temperature ranges from 58 to 60° F. The growing season is 250 to 300 days. Sunnyvale and Alviso are the principal associated soils.

The surface soil averages 17 to 30 inches in thickness and is a very dark gray, slightly calcareous clay. The subsoil is a white strongly calcareous clay, extremely hard when dry, ranging in thickness from 10 to 24 inches. The substratum is pale yellow clay.

Castro soils are used for irrigated row crops, sugar beets, orchards and dryland hay. Large areas are also used for commercial and housing developments.

Castro clay (Cf). This level soil occurs in low alluvial plain positions northeast of Sunnyvale and just north of Lawrence.

Representative profile: 1.2 miles north of Lawrence, about 250 feet south, in the southeast corner of the north 1/4 of Sec. 29, T. 6 S., R. 1 W., Santa Clara County, California

Ap 0 to 7 inches, very dark gray (N3/) clay, black, (N2/) moist; strong medium and fine granular structure; hard, firm, sticky and plastic; abundant very fine roots; common very fine and fine interstitial pores, many very fine tubular pores; slightly calcareous, moderately alkaline (pH 8.0); abrupt smooth boundary. (6 to 8 inches thick).

A12 7 to 18 inches, very dark gray (N3/) clay, black (N2/) moist; moderate medium subangular blocky; hard, firm, sticky and plastic; abundant very fine roots; common very

Cropley

Rooting depth is very deep, but root density is limited by droughty, very gravelly subsoils and substratum.

A few of the more usable soils have been planted to irrigated prunes; it is mostly used for limited grazing. Capability unit IVs4 (14), and VIIe4 (15).

CROPLEY SERIES

The Cropley series consists of well drained, fine textured soils underlain by mixed, mostly sedimentary alluvium. They have formed on nearly level to moderately sloping fans. Vegetation is annual and perennial grasses and forbs. Elevations range from 130 to 1,000 feet. Mean annual rainfall is 16 to 20 inches; mean annual air temperature is about 58 to 60° F. The growing season is about 260 to 300 days. Clear Lake and Pleasanton are the principal associated soils.

Surface soil is very dark gray, neutral clay or clay loam, averaging 12 to 22 inches in thickness. The subsoil is a dark gray mildly alkaline clay, averaging 15 to 30 inches in thickness. When these soils are dry, deep cracks develop in the surface and upper subsoil. The substratum material consists of dark grayish brown calcareous clay.

Cropley soils are used for irrigated row crops, orchards, dryland grain hay, pasture, housing and commercial developments.

Cropley clay, 0 to 2 percent slopes (CrA). This soil occurs on nearly level alluvial fans averaging about 1 percent slope.

Representative profile: One tenth of a mile east in a field, two tenths of a mile south of Foothill road from Tennant Avenue intersection; Santa Clara County, California.

Ap 0 to 7 inches, very dark gray (10YR 3/1) clay, black (10YR 2/1) when moist; weak medium subangular blocky and strong medium and fine granular structure; very hard, very firm, very sticky and very plastic; abundant very fine roots; many fine and very fine interstitial pores and a few medium tubular pores; neutral (pH 7.0); clear smooth boundary. (5 to 10 inches thick).

A12 7 to 14 inches, very dark gray (10YR 3/1) clay, black (10YR 2/1) when moist; strong coarse prismatic structure with few medium and fine granules; very hard, very firm, very sticky and very plastic; few very fine and a few coarse woody roots; common very fine interstitial and few fine tubular pores; neutral (pH 7.0); small numerous slickensides; gradual wavy boundary. (7 to 12 inches thick).

A13 14 to 36 inches, dark gray (10YR 4/1) clay, black and very dark gray (10YR 2/1, 3/1) moist; prismatic, very hard, very firm, very sticky and very plastic; few fine interstitial and fine tubular pores; numerous slickensides, also pressure faces; mildly alkaline (pH 7.5); gradual wavy boundary. (15 to 30 inches thick).

Cca 36 to 60 inches, dark grayish brown (2.5Y 4/2) clay, very dark grayish brown (2.5Y 3/2) moist; massive; hard, firm, sticky and plastic; many very fine interstitial and common very fine tubular pores; calcareous, moderately alkaline (pH 8.0).

Surface soil color may be dark gray or very dark gray, or nearly black. Reaction is neutral to mildly alkaline. Texture may range to a heavy clay loam but is typically clay. Segregated lime occurs at depths of 20 to 60 inches in extreme, but commonly occurs at an average depth of 36 inches. When this soil is dry, deep cracks develop averaging 1/2 to 1 1/2 inches in width, extending to an average depth of 36 inches.

Included in mapping this soil are small bodies of Clear Lake clay, occurring in low depressional positions, 10 percent; also areas of gravelly clay loam overwash ranging from 12 to 30 inches in thickness.

This well drained soil has high fertility and holds about 10 to 12 inches of water plants can use. Permeability is slow. Surface runoff is very slow and erosion hazard is not a problem. Rooting depth is very deep but somewhat restricted by the clay texture.

This soil is used for irrigated prunes, apricots, dryland hay and pasture. Capability unit IIs5 (14).

Cropley clay, 2 to 9 percent slopes (CrC). This soil is similar to Cropley clay, 0 to 2 percent slopes, except it occupies gently to moderately sloping alluvial fans; surface runoff is slow to medium, erosion hazard is slight to moderate. Included in mapping are areas that have a heavy gravelly clay loam or gravelly clay texture.

This soil is used for irrigated prunes, apricots, dryland hay and pasture. Capability unit IIe5 (14).

Cropley clay loam, 0 to 2 percent slopes (CsA). This soil consists of Cropley clay, 0 to 2 percent slopes with calcareous clay loam overwash. Average thickness is about 12 inches, however, the range in thickness is 8 to 20 inches. Included in mapping are areas where the clay loam texture may be 30 inches thick; also, about 15 percent is Campbell silty clay loam.

This soil is used for irrigated row crops, sugar beets, apricots, prunes, walnuts, housing and commercial developments. Capability unit IIs5 (14).

GARRETSON SERIES

The Garretson series consists of well drained, medium textured soils, underlain by sedimentary alluvium. These soils formed on nearly level to gently sloping first bottom positions along the larger drainageways. Vegetation is annual grasses and forbs, with a few scattered oak trees. Elevations range from 200 to 2,000 feet. Mean annual rainfall is 16 to 25 inches; mean annual air temperature is 58 to 60° F. The growing season is about 250 to 300 days. Esparto, Yolo and Zamora are the principal associated soils.

The surface soil ranges in thickness from 16 to 28 inches, and is a grayish brown neutral loam, gravelly loam or fine sandy loam. The subsoil is a brown, neutral, very fine sandy loam or loam, averaging 20 to 32 inches in thickness. The substratum is stratified, ranging from gravelly loam to sand and gravel.

Garretson soils are used for irrigated orchards, dryland grain hay and pasture.

Garretson loam, gravel substratum, 0 to 2 percent slopes (GaA). This soil occurs on first bottom positions, along the larger drainageways. The slopes usually average less than 2 percent.

Representative profile: In a walnut orchard, 6/10 of a mile south of Coyote and 50 feet north off farm road and 2/10 of a mile east off highway 101; Santa Clara County, California.

Ap	0 to 6 inches, grayish brown (10YR 5/2) loam, about 3 to 5 percent gravel, very dark grayish brown (10YR 3/2) when moist; massive; hard, friable, nonsticky and nonplastic; neutral (pH 7.0); clear smooth boundary. (4 to 10 inches thick).
A11	6 to 19 inches, grayish brown (10YR 5/2) loam, about 2 to 3 percent medium and fine gravel, very dark grayish brown (10YR 3/2) moist; massive; hard, friable, nonsticky and nonplastic; many very fine, few medium tubular pores; neutral (pH 7.0); clear smooth boundary. (12 to 18 inches thick).
C1	19 to 40 inches, brown (10YR 5/3) very fine sandy loam, dark brown (10YR 4/3) moist; massive; hard, friable, nonsticky and nonplastic; neutral (pH 7.0); clear smooth boundary. (20 to 32 inches thick).
IIC2	40 to 60 inches, stratified sands and gravels.

Surface soil colors may be brown or grayish brown. Reaction in the surface and subsoil may be slightly acid, neutral or moderately alkaline. Structure is massive and the texture is typically a loam but may be clay loam. Subsoil colors are brown,pale brown or yellowish brown. Texture may be very fine sandy loam, or gravelly loam. Clay content of the subsoil will average between 18 and 35 percent. The substratum at depths of 36 to 60 inches is stratified sand and gravel. A few areas may be calcareous below 36 inches.

Included in mapping this soil are areas of Cortina very gravelly loam 15 percent, and a few areas of sand and gravel substratum within 20 inches of the surface.

This well drained soil holds about 5 to 7 inches of water for plant use. Subsoil permeability is moderate and runoff is very slow. Erosion hazard is not a problem. Fertility is moderate. Depth of rooting zone is deep but may be somewhat restricted by the sand and gravel substratum.

This soil is used for irrigated prunes, walnuts and dryland hay and pasture. Capability unit IIs4 (14) and IIIcl (15).

Garretson gravelly loam, 0 to 5 percent slopes (GbB). This soil occurs on nearly level to gentle slopes, averaging 2 to 4 percent. The texture is a gravelly loam or gravelly clay loam. Subsoil and substratum is usually stratified but the same texture as the surface; the sand or gravel strata is missing. Subsoil permeability is moderately rapid and the soil holds 7 to 8 inches of water plants can use. Favorable rooting depth is very deep; runoff is slow; erosion hazard is slight. Otherwise, this soil is similar to Garretson loam, gravel substratum, 0 to 2 percent slopes. Included in mapping are slopes that range up to 9 percent, and similar soils with dark grayish brown granular surface, formed on basic igneous rock alluvium.

This soil is used for irrigated prunes, apricots, walnuts and dryland hay or pasture. There is enough gravel present in the surface soil to interfere slightly with tillage operations. Capability unit IIs4 (14) and IIIcl (15).

Garretson fine sandy loam, 0 to 2 percent slopes (GpA). This soil is nearly level, with an average slope less than 2 percent. Texture is a fine sandy loam. Subsoil and substratum is stratified and the texture may be fine sandy loam, gravelly loam or sandy loam; the sand and gravel strata is missing. This soil holds 8 to 9 inches of water plants can use. Favorable rooting depth is very deep. Otherwise, it is similar to Garretson loam, gravel substratum, 0 to 2 percent slopes. Included in mapping are areas of gravelly loam texture and similar soils with mottled subsoils.

This soil is used for irrigated prunes, apricots, walnuts, dryland hay and pasture. Capability unit I-1 (14).

Orestimba clay loam (Of). This soil is similar to Orestimba silty clay loam, except surface texture is clay loam, and concentration of salts is only slight. Natural drainage is now moderately well because of the general lowering of ground water level in the valley. Average water holding capacity is 9 to 11 inches and fertility is moderate. Most of this soil occupies small level basins east and southeast of San Jose. Included i mapping are areas of Sunnyvale silty clay 10 percent; 5 percent Clear Lake clay; also, a few small areas of moderate to strong concentrations of both neutral and alkaline salts.

This soil is used for irrigated row crops, prunes, pears, dryland hay and pasture. A few areas have been used for housing developments. Capability unit IIIw5 (14).

PACHECO SERIES

The Pacheco series consists of poorly drained, medium textured soils, underlain by sedimentary alluvium. These soils formed on low level alluvial plains. Vegetation is annual grasses and forbs. Elevations range from 150 to 300 feet. Mean annual rainfall is 16 to 20 inches; mean annual air temperature is 58 to 60° F. The growing season is 250 to 300 days. Clear Lake, Yolo, and Willows are the principal associated series.

The surface soil averages 14 to 18 inches in thickness and is a moderately alkaline, grayish brown fine sandy loam, loam, silt loam and clay loam. The subsoil is a mottled light gray, moderately alkaline loam averaging 18 to 25 inches in thickness. The substratum is light gray mottled calcareous, medium textured alluvium.

Pacheco soils are used for irrigated sugar beets, row crops, orchards, pasture and hay.

Pacheco clay loam (Pd). This soil occurs on level low positions of the alluvial plains.

Representative profile: In a field 1/10 of a mile west of pump number 1 on Taix Company ranch; Santa Clara County, California.

Ap 0 to 7 inches, grayish brown (10YR 5/2) clay loam, very dark grayish brown (10YR 3/2) moist; moderate, fine granular structure; hard, friable, sticky and plastic; many fine interstitial and fine tubular pores; moderately alkaline (pH 8.0); clear smooth boundary. (6 to 8 inches thick).

A12 7 to 16 inches, grayish brown (10YR 5/2) clay loam, very dark grayish brown (10YR 3/2) moist; moderate, medium subangular blocky structure; hard, friable, sticky and plastic; many fine interstitial and tubular pores; moderately alkaline (pH 8.0); clear smooth boundary. (8 to 10 inches thick).

C1g 16 to 35 inches, light gray (10YR 6/1) loam, gray, (10YR 5/1) moist; many fine distinct mottles brown (10YR 5/3) dry and dark brown (10YR 4/3) moist; massive; hard, friable, nonsticky and nonplastic; moderately alkaline (pH 8.3); clear smooth boundary. (18 to 25 inches thick).

C2g 35 to 60 inches, light gray (10YR 6/1) very fine sandy loam, gray (10YR 5/1) moist; many large distinct mottles brown (10YR 5/3) dry; dark brown (10YR 3/3) moist; massive; hard, friable, nonsticky and nonplastic; slightly calcareous, moderately alkaline (pH 8.0).

Surface soil color is grayish brown and dark gray. Reaction is mildly to moderately alkaline. Texture is clay loam or silty clay loam. Structure is moderate, fine and medium granular or subangular blocky. Colors of the subsoil may be light brownish gray, light gray or gray with brown and pale brown mottles.Lime is usually present and the reaction is moderately alkaline. Textures are stratified sandy loam to silty clay loam, averaging between 10 to 40 percent clay and more than 15 percent sand. Mottling is usually present at an average depth just over 16 inches.

Included in mapping this soil are 5 percent areas of Clear Lake clay; and similar soils that are calcareous on the surface.

This poorly drained soil holds about 6 to 8 inches of water plants can use. Fertility is moderate and subsoil permeability is moderate. Surface runoff is very slow and this soil is flooded about twice every ten years. Plant rooting depth is limited at an average depth of 36 to 50 inches by the seasonal water table.

This soil is used for irrigated row crops and sugar beets. Early crops are usually destroyed when this soil is flooded. Capability unit IIw2 (14).

Pacheco fine sandy loam (Pa). This soil occurs in low positions southeast of Gilroy, where it is flooded about twice every ten years. Color of the surface is grayish brown. Surface texture may be sandy loam or silt loam, but is usually fine sandy loam. Rooting depth is limited at depths of 36 to 50 inches by a seasonal water table. Average water holding capacity is 5 to 7 inches. Otherwise, this soil is similar to Pacheco clay loam. Included in mapping are 5 percent areas of Clear Lake clay; areas of gravelly texture; and small spots of neutral salt concentrations. Along Carnadero Creek east of Miller railroad siding, about 100 acres of soils with a much substratum.

This soil is used for irrigated row crops and sugar beets. Capability unit IIw2 (14).

Pacheco silt loam, drained (Pb). Except for texture of the surface soil being a silt loam, and the soil holds about 8 to 10 inches of water plants can use, this soil is similar to Pacheco clay loam. Rooting depth is over 60 inches because of a gene ally lowering of the water table that existed during soil de velopment. It has been flooded in the past about once every years. Included in mapping are 10 percent areas of Yolo loa and 5 percent areas of gravelly texture.

This soil is used for irrigated row crops, sugar beets, cherr prunes, walnuts, hay and pasture. Capability unit I-1 (14).

Pacheco clay loam, gravelly substratum (Pe). This soil occurs as gravelly stringers, geographically intermixed with the Pacheco and Campbell soils. Surface soil color is grayish bro or dark gray. Texture may be a loam, clay loam or gravelly cla loam. In general, water tables are below 5 feet, but a few areas have seasonal water tables within 3 feet of the surface that will somewhat restrict rooting depth. The substratum, at an average depth of 36 to 40 inches is sand and gravel. Average water holding capacity is 6 to 8 inches; subsoil permeability is moderately rapid. Otherwise, it is similar to Pacheco clay loam. Included in mapping are areas of sand and gravel, within 20 inches of the surface; and a few areas of pale brown loam 10 to 15 inches in thickness over the normal grayish brown loams.

This soil is used for irrigated row crops, sugar beets, prunes, walnuts and pasture. Capability unit IIs4 (14).

Pacheco loams, clay substratum (Pf). This soil is intermixed with Mocho, Pacheco and Campbell soils. Texture may be a loam, fine sandy loam or clay loam. Generally, water tables are below 4 feet, but a few areas have seasonal water tables within 2 feet of the surface that will somewhat restrict rooting depth. The substratum is a clay that occurs at a depth of 36 to 40 inches. Average water holding capacity is about 4 to 8 inches. Subsoil permeability is slow. Otherwise, it is similar to Pacheco clay loam. Included in mapping are areas of soils that are calcareous on the surface, about 10 percent; and areas where it is only 20 inches to the clay substratum.

This soil is used for irrigated row crops, prunes and pears. Capability unit IIIw5 (14).

PARRISH SERIES

The Parrish series consists of well drained soils, having gravelly fine textured, strongly acid subsoils, underlain at depths of 2 to 3 feet by hard shales. They formed on strongly sloping to very steep uplands. Vegetation is grasses and forbs, oak trees and a few scattered stands of Ponderosa pine. Elevations range from 1,000 to 3,000 feet. Mean annual rainfall is 20 to 30 inches; mean annual air temperature is about 54 to 56° F. The growing season is about 200 to 250 days. Gaviota and Los Gatos are the principal associated soils.

The surface soil ranges in thickness from 4 to 10 inches and is

Permanente stony loam, 50 to 75 percent slopes, severely eroded (PhG3). This soil occurs on very steep uplands with an average slope of 60 percent.

Representative profile: 200 yards south west of radio towers on Black Mountain, Monte Bello Ridge, in the S. E. 1/4 of the S. W. 1/4 of Sec. 13, T. 7 S., R. 3 W., Santa Clara County, California.

A1 0 to 3 inches, brown (7.5YR 5/4) loam, dark brown (7.5YR 3/2) moist; moderate, medium granular structure; slightly hard, very friable, nonsticky and slightly plastic; plentiful very fine roots; many very fine tubular and a few medium tubular pores; mildly alkaline (pH 7.5); clear wavy boundary. (2 to 5 inches thick).

A12 3 to 18 inches, brown (7.5YR 5/4) stony loam, dark reddish brown (5YR 3/3) moist; strong, fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; few fine roots; few fine and medium tubular pores; mildly alkaline (pH 7.5); abrupt irregular boundary. (13 to 15 inches thick).

R 18 inches, bluish, massive limestone

Color of the surface soil may be brown or dark brown. Reaction is mildly alkaline. The granular structure is moderate to strong. Rock outcrops vary from a few percent to about 20 and varying amounts of limestone rock fragments are scattered through the soil. Soil depth varies from 15 to 20 inches, and averages about 18 inches. Past sheet erosion is moderate to severe.

Included in mapping this soil are areas of Maymen rocky fine sandy loam 5 percent; 5 percent Los Gatos gravelly loam; also, areas of Rock land.

This somewhat excessively drained soil holds about 1 to 3 inches of water plants can use. Fertility is low. Runoff is very rapid and the erosion hazard is very high. Permeability is moderate. Soil depth is shallow to limestone bedrock.

This brush covered soil is used for wildlife, recreation and watershed. The limestone substratum is mined by Permanente and used in making cement. Capability unit VIIIsl (15).

PITS (PkG).

This miscellaneous land type consists of excavated substratum material from Yolo and Soper series. The areas have been used principally as a source of gravel or for soil material used in the manufacturing of bricks. Areas in the streambeds are frequently flooded during the rainy season. The surface area is usually lacking in vegetation and the steep slopes slough and slide.

This land type is used for wildlife and recreation. A few are used by the city and county for dumping trash and other materials. Capability unit VIIIw4 (14).

PLEASANTON SERIES

The Pleasanton series consists of well drained soils, having erately fine textured subsoils, underlain by old gravelly sedimentary alluvium. These soils formed on nearly level to mode ately steep fans and terraces. Vegetation is chiefly annual grasses and forbs with scattered oak trees. Elevations range from 200 to 1,000 feet. Mean annual rainfall is 16 to 20 inch mean annual air temperature is 58 to 60° F. The growing season is about 260 to 300 days. Hillgate and Arbuckle are the principal associated soils.

The surface soil averages 12 to 20 inches in thickness and is a grayish brown, slightly acid loam or gravelly loam. Subsoil is dark grayish brown and neutral gravelly clay loam, ranging from 24 to 30 inches in thickness. The substratum is neutral, yellowish brown, sandy clay loam over gravelly alluvial material extending to an undetermined depth.

Pleasanton soils are used for irrigated row crops, orchards, vineyards and dryland hay, pasture and range. They are also used for housing and commercial developments.

Pleasanton loam, 0 to 2 percent slopes (PoA). This soil occurs on nearly level old fans.

Representative profile: About 10 feet off north side of road on Dryden Avenue, 700 feet east of New Avenue; Santa Clara County, California.

Ap	0 to 5 inches, grayish brown (10YR 5/2) loam, very dark grayish brown (10YR 3/2) moist; massive; hard, friable, slightly sticky and slightly plastic; few very fine roots; many very fine interstitial and common very fine tubular pores; slightly acid (pH 6.5); abrupt smooth boundary. (0 to 6 inches thick).
A12	5 to 18 inches, grayish brown (10YR 5/2) loam, very dark grayish brown (10YR 3/2) moist; massive; hard, friable, slightly sticky and slightly plastic; few very fine and medium roots; many very fine interstitial, common fine tubular and a few medium tubular pores; slightly acid (pH 6.5); clear wavy boundary. (12 to 14 inches).
B1t	18 to 23 inches, dark grayish brown (10YR 4/2) clay loam, very dark grayish brown (10YR 3/2) moist; massive; hard, friable, slightly sticky and slightly plastic; few medium roots; many very fine interstitial and tubular pores; common thin clay films lining pores and on ped faces;

neutral (pH 7.0); clear smooth boundary. (4 to 6 inches thick).

t 23 to 44 inches, brown (10YR 5/3) gravelly heavy clay loam, dark brown (10YR 3/3) moist; moderate medium subangular blocky structure; very hard, friable, sticky and plastic; few very fine roots; many very fine and fine, few medium tubular pores; many moderately thick clay films on ped faces and lining pores; neutral (pH 7.0); clear smooth boundary. (20 to 24 inches thick).

3t 44 to 66 inches, yellowish brown (10YR 5/4) gravelly sandy clay loam, dark yellowish brown (10YR 4/4) moist; massive; hard, friable, sticky and plastic; few medium roots; many very fine, fine interstitial and tubular, also a few medium tubular pores; common thin clay films in pores and on ped faces; neutral (pH 7.0).

The surface soil color is brown or grayish brown and occasionally dark grayish brown. Texture is typically loam but will range to a light clay loam with some medium and fine gravel, ranging from 3 to 5 percent by volume. Reaction is slightly acid to neutral and changes little with depth. Subsoil color is brown, dark grayish brown or yellowish brown. Texture is a gravelly clay loam or gravelly sandy clay loam. The substratum is lighter colored and more yellowish than the subsoil. Lime is occasionally present in the substratum.

Included in mapping this soil are 5 percent areas of San Ysidro loam; 5 percent Hillgate silt loam; and a few areas of soils similar to Pleasanton loam that have medium acid subsoils, 5 percent. The included soils are only moderately deep to a clay subsoil which may cause irrigation management problems.

This well drained soil is moderately fertile, and average water holding capacity is about 8 to 9 inches. Subsoil permeability is moderately slow. Surface runoff is very slow and erosion is not a problem. Favorable rooting depth is very deep but is somewhat restricted by the moderately fine textured subsoil.

This soil is used for irrigated row crops, apricots, prunes, walnuts, grapes, dryland grain hay and pasture. Large areas are also used for housing and commercial developments. Capability unit I-3 (14).

Pleasanton loam, 2 to 9 percent slopes (PoC). This soil occurs as small to moderately sized areas on slightly older alluvial fans. Average slope ranges from 3 to 5 percent. Runoff is slow to medium and erosion hazard is slight to moderate. Otherwise, this soil is similar to Pleasanton loam, 0 to 2 percent slopes. Included in mapping are areas of moderate sheet erosion.

This soil is used for irrigated prunes, apricots, grapes, walnuts, dryland hay and pasture. Large areas of this soil are also used for housing and commercial development. Capability unit IIe (14).

Pleasanton gravelly loam, 0 to 2 percent slopes (PpA). Excep for being a gravelly loam on the surface, this soil is simila to Pleasanton loam, 0 to 2 percent slopes. The average percen of gravel ranges from 15 to 20 percent by volume. It holds about 5 to 7 inches of water plants can use. Included in mapping are areas of Cropley clay 10 percent; and 5 percent Sa Ysidro loam.

This soil is used for irrigated apricots, prunes, walnuts, grapes, dryland hay and pasture. It is also used for housing and commercial development. There is usually enough gravel on the surface to interfere slightly with tillage operations. Capability unit IIs4 (14).

Pleasanton gravelly loam, 2 to 9 percent slopes (PpC). This soil occurs as small to moderate sized areas at the upper part of the slightly older alluvial fans. Average slope is 3 to 5 percent. Texture is a gravelly loam on the surface; the gravel ranges from 15 to 25 percent by volume. Average water holding capacity is about 5 to 7 inches. Runoff is slow to medium and erosion hazard is slight to moderate. Otherwise, this soil is similar to Pleasanton loam, 0 to 2 percent slopes. Included in mapping, are small areas of Cropley clay 5 percent; 5 percent Hillgate silt loam, and 5 percent Yolo gravelly loam.

Except for areas in the small upland valleys, most of this soil is cultivated. It is used for irrigated prunes, apricots, grapes, dryland hay and pasture. There is generally enough gravel to interfere slightly with tillage operations. Capability unit IIIe4 (14).

Pleasanton gravelly loam, 9 to 15 percent slopes, eroded (PpD2) This soil occurs as small areas on strongly sloping terraces. Average slope is 12 percent. Texture is gravelly loam and the gravel ranges from 15 to 25 percent by volume. The average water holding capacity is about 5 to 7 inches. Runoff is medium erosion hazard is moderate. Otherwise, this soil is similar to Pleasanton loam, 0 to 2 percent slopes. Included in mapping are small areas of 10 percent Hillgate silt loam; and areas of severe sheet erosion.

This soil is used for dryland hay, pasture and range. There is generally enough gravel to interfere slightly with tillage operations. Capability unit IVe1 (15); pasture and range site Loamy

Pleasanton gravelly loam, 15 to 30 percent slopes, eroded (PpE2) This soil occurs as small areas on moderately steep terraces, facing toward deeply entrenched stream channels. The average slope is 20 percent. Texture is gravelly loam and the gravel ranges from 15 to 20 percent by volume. Average water holding

UnLO

Santa Lucia shaly loam, 30 to 50 percent slopes, eroded (ScF2). This soil occupies steep uplands averaging about 35 percent slope. Most of this soil is located in the southwestern part of the area, along the Santa Cruz-Santa Clara County line. Because of moderate sheet erosion, depth to bedrock is 16 to 26 inches. Surface runoff is rapid and erosion hazard is high. Otherwise, this soil is similar to Santa Lucia shaly loam, 50 to 75 percent slopes. Included in mapping are areas of Rock land and small areas of shallow shaly soils; also, a few slopes ranging to 16 percent gradient.

This soil is used for dryland pasture and range. Vegetation is variable, ranging from grass areas, and mixed grass-oak trees, to some brush areas. Capability unit VIel (15); pasture and range site Loamy, steep phase.

SAN YSIDRO SERIES

The San Ysidro series consists of moderately well drained soils, having a claypan subsoil. Underlying material is old alluvium. These soils are on nearly level to strongly sloping fans and terraces. Vegetation is annual grasses and forbs with scattered oak trees. Elevations range from 200 to 1,000 feet. Mean annual rainfall is 16 to 20 inches; mean annual air temperature is 58 to 60° F. The growing season is 250 to 300 days. Pleasanton and Hillgate are the principal associated soils.

The surface soil averages 13 to 26 inches in thickness and is a light brownish gray, medium acid loam. The surface soil grades into the upper subsoil through a mottled light gray horizon averaging 2 inches in thickness. The subsoil is a brown and yellowish brown, slightly acid and neutral clay, ranging in thickness from 16 to 20 inches. The substratum is a light yellowish brown, slightly calcareous clay loam over stratified, moderately fine textured gravelly alluvium.

San Ysidro soils are used for irrigated apricots, prunes, vineyards, dryland hay and pasture.

San Ysidro loam, 0 to 2 percent slopes (SdA). This soil occurs in depressional areas and has nearly level smooth slopes.

Representative profile: Second tree row west and 9 tree rows south of shop, in a prune orchard on Alfred Angelino ranch, about 1,500 feet east on Godfrey Avenue from the intersection with Furlong Avenue; Santa Clara County, California.

Ap

0 to 5 inches, light brownish gray (10YR 6/2) loam, dark grayish brown (10YR 4/2) moist; massive; hard, friable, nonsticky and slightly plastic; abundant very fine roots; many very fine interstitial pores; medium acid (pH 6.0); abrupt smooth boundary. (0 to 6 inches thick).

A12 5 to 18 inches, light brownish gray (10YR 6/2) loam, grayish brown (10YR 4/2) moist; massive; hard, friabl nonsticky, slightly plastic; few very fine and fine roots; many very fine interstitial and tubular pores, few medium tubular pores; medium acid (pH 6.0); clear wavy boundary. (12 to 14 inches thick).

A2 18 to 20 inches, light gray (10YR 7/2) loam, light bro ish gray (10YR 6/2) moist; common fine distinct mottle pale brown dry (10YR 6/3), dark brown (10YR 4/3) moist massive; hard, friable, nonsticky and nonplastic; few very fine and fine roots; many very fine interstitial tubular pores and few medium tubular pores; slightly ac (pH 6.5); abrupt wavy boundary. (1 to 6 inches thick).

B21t 20 to 28 inches, brown (10YR 5/3) clay, dark brown (10YR 4/3) moist, few medium faint mottles yellowish brown (10YR 5/4) dry, dark grayish brown (10YR 4/2) moist; moderate, coarse, prismatic structure; very hard, firm, sticky, plastic; many very fine interstitial and tubular pores, few medium tubular pores; many moderately thick clay films on ped faces and in pores; slightly acid (pH 6.5); clear wavy boundary. (8 to 10 inches thick).

B22t 28 to 36 inches, yellowish brown (10YR 5/4) clay, dark yellowish brown (10YR 4/4) moist; moderate, coarse, prismatic structure; very hard, very firm, sticky and plastic; many fine tubular pores; continuous moderate thick and thick clay films on ped faces and in pores; neutral (pH 7.0); clear wavy boundary. (8 to 10 inches thick).

B3 36 to 50 inches, light yellowish brown (10YR 6/4) clay loam, yellowish brown (10YR 5/6) moist; weak medium subangular blocky structure; very hard, firm, sticky and plastic; many very fine, fine and a few medium tubular pores; common thin clay films in pores and on ped faces; slightly calcareous, moderately alkaline (pH 8.0); gradual wavy boundary. (12 to 16 inches thick).

C1 50 to 60 inches, light yellowish brown (10YR 6/4) sandy clay loam, yellowish brown (10YR 5/6) moist; massive; hard, friable, sticky and plastic; many very fine interstitial, tubular and a few medium tubular pores; slightly calcareous, moderately alkaline (pH 8.0).

Color of the surface soil is light brownish gray or pale brown. Texture is a loam or very fine sandy loam. Reaction is medium acid, increasing with depth. The A2 horizon is a mottled light gray loam ranging from 1 to 6 inches in thickness, but the average is about 2 inches. Color of the subsoil is yellowish brown or brown and the texture is a heavy clay loam or clay. Reaction is neutral or mildly alkaline. The substratum is stratified, but is usually a sandy or gravelly clay loam. Reaction is moderately alkaline and is intermittently slightly calcareous.

6NLO

Included in mapping this soil are areas of 10 percent Pleasanton loam; 5 percent Arbuckle gravelly loam; and about 89 acres of grayish brown clay loam overwash, south of Highland avenue along the west branch of Llagas creek.

This moderately well drained soil has a very slowly permeable claypan subsoil. During winter months the soils become ponded. Fertility is low, and the average water holding capacity is about 4 to 5 inches. Favorable rooting depth is moderately deep and erosion is not a hazard.

This soil is used for irrigated apricots, prunes and grapes. A few acres are used for dryland grain hay and pasture. Because of the clay subsoil, this soil is best suited for shallow rooted crops. Capability unit IIIs3 (14).

San Ysidro loam, 2 to 9 percent slopes, eroded (SdB2). This soil occurs on gentle to moderately sloping fans averaging about 4 percent slopes. Because of moderate sheet erosion the rooting depth is about 15 to 20 inches. Runoff is slow to medium and the erosion hazard is slight to moderate; average water holding capacity is 3 to 4 inches. Otherwise, this soil is similar to San Ysidro loam, 0 to 2 percent slopes. Included in mapping are 10 percent areas of Pleasanton loam; and 5 percent Arbuckle gravelly loam.

This soil is used for irrigated apricots, prunes and grapes; a few areas are used for dryland grain hay and pasture. Capability unit IIIe3 (14).

San Ysidro loam, 9 to 15 percent slopes (SdD). This soil occupies strongly sloping terraces with slopes averaging 10 percent. Runoff is medium and the erosion hazard is moderate. Otherwise, this soil is similar to San Ysidro loam, 0 to 2 percent slopes. Included in mapping are areas of 10 percent Pleasanton gravelly loam; and 5 percent Hillgate silt loam.

This soil is used for dryland apricots, prunes, grapes, grain hay and pasture. Capability unit IVe3 (15); pasture and range site, Claypan.

San Ysidro clay overwash, 0 to 2 percent slopes (SeA). This soil occupies nearly level fans. Except for having 17 to 30 inches of clay and clay loam overwash material on the surface, and rooting depth ranging from 19 to 32 inches, this soil is similar to San Ysidro loam, 0 to 2 percent slopes. Runoff is very slow and erosion is not a problem. Included in mapping are areas of 10 percent Zamora clay loam; and 5 percent Cropley clay.

This soil is used for irrigated apricots, prunes and dryland hay and pasture. Capability unit IIIs3 (14).

San Ysidro loam, acid variant, 0 to 2 percent slopes (SfA). This soil occupies nearly level old fans. Except for being strongly acid in the subsoil, it is similar to San Ysidro loam, 0 to 2 percent slopes.

Representative profile: A typical profile was taken 250 feet west of Center Road, 6/10 of a mile south of Church Street, and about 2 1/4 miles southeast of San Martin; Santa Clara County, California.

Ap	0 to 4 inches, light brownish gray (10YR 6/2) loam, dark grayish brown (10YR 4/2) moist; weak fine and medium subangular blocky structure; very hard, friable, slightly sticky and slightly plastic; plentiful very fine roots; many very fine interstitial, common fine and medium tubular pores; medium acid (pH 6.0); clear smooth boundary. (4 to 5 inches thick).
A12	4 to 10 inches, light brownish gray (10YR 6/2) loam, dark grayish brown (10YR 4/2) when moist; weak coarse angular blocky structure; very hard, friable, slightly sticky and slightly plastic; few very fine roots; many very fine interstitial, common fine and medium tubular pores; slightly compact due to tillage, slightly darker than Ap; medium acid (pH 6.0); gradual smooth boundary. (6 to 8 inches thick).
A13	10 to 15 inches, light brownish gray (10YR 6/2) heavy loam with common fine distinct brown (7.5YR 5/4) mottles; dark grayish brown (10YR 4/2, 5/2) when moist; massive; very hard, friable, sticky and plastic; very few very fine and medium roots; many very fine interstitial, common fine and medium tubular pores; many indistinct brown (7.5YR 5/4) specks and few 1 to 2 mm reddish brown concretions; medium acid (pH 6.0); clear smooth boundary. (4 to 6 inches thick).
A2	15 to 20 inches, light gray (10YR 7/2) heavy loam with common fine distinct brown (10YR 5/3) mottles; brown (10YR 5/3), (7.5YR 4/2), when moist; massive; very hard, friable, sticky and plastic; very few very fine and medium roots; many very fine interstitial and common fine and medium tubular pores; common fine, 1 to 2 mm, very dark reddish brown Mn-Fe concretions; medium acid (pH 6.0); gradual wavy boundary. (2 to 8 inches thick).
B&A	20 to 29 inches, mottled and mixed yellowish brown, pale brown and light gray (10YR 5/4, 6/3, 7/2) clay loam, dark grayish brown, dark brown and brown (10YR 4/2, 4/3, 5/3) when moist; massive; very hard, firm, sticky and plastic; very few very fine roots; common very fine interstitial, common very fine, few fine tubular pores; common thin clay films on joints; common fine dark reddish brown to black 1 mm concretions, mostly upper part, more A2 colors

Yolo

upper part, lumps and blotches appear to be remnants of degrading B, no clay films in light colored areas; medium acid (pH 6.0); gradual smooth boundary. (2 to 8 inches thick).

2t 29 to 42 inches, light yellowish brown (10YR 6/4) light clay, brown (10YR 5/3, 4/4 rubbed) moist; massive; very hard, firm, sticky and plastic; common very fine interstitial, common fine few very fine and few medium tubular pores; many thin clay films as bridges; a few prominent joints have moderately thick clay films (10YR 5/4d, 3/3m) and black Mn stains in dendritic pattern; joints suggest horizon may have large polygenal prisms, somewhat brittle when moist; strongly acid (pH 5.2); gradual smooth boundary. (14 to 20 inches thick).

B3t 42 to 58 inches, strong brown (7.5YR 5/6) gravelly heavy clay loam, dark brown (7.5YR 4/4) when moist; massive; hard, firm, sticky and plastic; slightly brittle; many very fine interstitial and a few fine tubular pores, continuous moderately thick clay films as bridges; some joints have moderately thick dark brown (7.5YR 3/2m, 4/4d moist 10YR 3/3m) clay films, black Mn veins 1/8 to 3/4 inches across and several inches long; many sandstone gravels are very rotten and are yellowish when cut; strongly acid (pH 5.4); gradual smooth boundary. (8 to 10 inches thick).

Color of the surface soil is light brownish gray and light gray or grayish brown. Texture is a coarse loam or very fine sandy loam, but a few areas range to sandy loam. Reaction is medium acid and is decreasing with depth. The A2 horizon is a mottled light gray, ranging in thickness from 2 to 8 inches, but the average is about 5 inches. Color of the subsoil is light yellowish brown or brown and the texture is a heavy clay loam or clay. Reaction is strongly acid. The substratum is strongly acid, gravelly clay loam.

Included in mapping this soil are 10 percent areas of Pleasanton loam; and 5 percent Hillgate silt loam.

This soil is used for irrigated apricots, prunes, grapes, dryland hay and pasture. Because of the claypan like subsoil, this soil is best suited to shallow rooted crops. Capability unit IIIs3 (14).

San Ysidro loam, acid variant, 2 to 9 percent slopes (SfC). Except for being gently to moderately sloping, with an average slope of 5 percent, this soil is similar to San Ysidro loam, acid variant, 0 to 2 percent slopes. Runoff is slow to medium and the erosion hazard is slight to moderate. Included in mapping this soil are areas of moderate sheet erosion, and Hillgate silt loam.

YOLO SERIES

The Yolo series consists of well drained, medium and moderately fine textured soils, underlain by sedimentary alluvium. They formed on nearly level to moderately sloping alluvial plains and fans. Vegetation is annual grasses and forbs, with a few scattered oak trees. Elevations range from 400 to 2,400 feet. Mean annual rainfall is 15 to 25 inches; mean annual air temperature is 58 to 60° F. The growing season is about 250 to 325 days. Zamora, Campbell and Esparto are the principal associated soils.

The surface soil ranges in thickness from 26 to 32 inches and is a grayish brown, neutral and mildly alkaline loam or silty clay loam. The subsoil and substratum are a brown, mildly alkaline silt loam or silty clay loam and extends to a depth of 60 inches or more.

Yolo soils are used for irrigated row crops, sugar beets, orchards, vineyards, dryland hay and pasture. Large areas are used for housing and commercial developments. These are the most productive soils in the Santa Clara Valley.

Yolo loam, 0 to 2 percent slopes (YaA). This soil occurs on nearly level alluvial plains and fans. Flooding is not usually a hazard except for a few low areas along drainageways, that may be flooded once in 20 years.

Representative profile: In a field 20 feet east of San Antonio Creek, 1/4 of a mile north of Harney School, in the San Antonio Valley in the Northwest corner of the N. W. 1/4 of the N. E. 1/4 of Sec. 1, T. 7 S., R. 4 E., Santa Clara County, California.

Ap 0 to 7 inches, grayish brown (10YR 5/2) loam, very dark grayish brown (10YR 3/2) moist; cloddy; hard, friable, nonsticky and nonplastic; abundant very fine roots; many very fine interstitial pores; neutral (pH 6.6); clear smooth boundary. (6 to 8 inches thick).

A12 7 to 29 inches, grayish brown (10YR 5/2) loam, very dark grayish brown (10YR 3/2) moist; massive; hard, friable, nonsticky and nonplastic; plentiful very fine roots; many very fine interstitial and tubular, also a few fine and medium tubular pores; mildly alkaline (pH 7.5); clear smooth boundary. (20 to 24 inches thick).

29 to 60 inches, brown (10YR 5/3) silt loam, dark brown (10YR 4/3) moist; massive; hard, friable, nonsticky and nonplastic; few very fine roots. many very fine interstitial, tubular and a few medium and fine tubular pores; mildly alkaline (pH 7.5).

face soil color may be grayish brown or brown. Reaction is dly alkaline to slightly acid. Texture is typically a loam, but may be silt loam or light clay loam. The subsoil color is brown, yellowish brown or light yellowish brown. Reaction is neutral to mildly alkaline. Texture is stratified silt loam, silty clay loam, clay loam, loam, sandy loam, and in places may be gravelly. Average texture from 10 to 40 inches deep, is a silty loam or silty clay loam; lime may be present in a few places in the substratum, below 40 inches.

Included in mapping this soil are areas of similar soil that is pale brown on the surface; and areas of Zamora clay loam.

This well drained soil holds about 9 to 10 inches of water for plant use. Fertility is high. Runoff is very slow and erosion is not a problem. Subsoil permeability is moderate and the effective rooting depth is very deep.

This soil is used mainly for irrigated row crops, sugar beets, prunes, apricots, walnuts, pears, dryland hay and pasture. Crop production is high to very high. About 50 percent of this soil is used for housing and commercial developments. Capability unit I-1 (14, or IIIcl (15); pasture and range site, Loamy.

Yolo loam, 2 to 5 percent slopes (YaB). Except for occurring as small to moderate sized, gently sloping areas, this soil is similar to Yolo loam, 0 to 2 percent slopes. Texture is a loam or light clay loam. Erosion hazard is slight and runoff is slow. Included in mapping are bodies of gravelly soils; and, slopes ranging up to 9 percent.

This soil is used mainly for irrigated row crops, sugar beets, prunes, apricots, walnuts, dryland hay and pasture. Capability unit IIel (14), or IIIel (15); pasture and range site Loamy.

Yolo silty clay loam, 0 to 2 percent slopes (YeA). This soil occupies nearly level alluvial plains of the Santa Clara Valley. Surface soil texture is a silty clay loam or clay loam. Runoff is very slow and erosion is not a problem. Average water holding capacity is about 10 to 11 inches. Subsoil permeability is moderately slow. Otherwise, this soil is similar to Yolo loam, 0 to 2 percent slopes. Included in mapping are small bodies of gravelly soils; narrow areas of slope breaks; and Campbell silty clay loam.

This soil is used for irrigated row crops, sugar beets, prunes, apricots, walnuts, pears, grapes, and dryland hay and pasture. About 50 percent of this soil is used for housing and commercial developments. Capability unit I-1 (14).

Yolo silty clay loam, 2 to 9 percent slopes (YeC). This soil occupies gently to moderately sloping alluvial fans, with an average slope of 5 percent. Surface soil texture is a silty clay loam or clay loam. Runoff is slow to medium and erosion hazard is slight to moderate. Average water holding capacity is about 10 to 11 inches and permeability is moderately slow.

Otherwise, this soil is similar to Yolo loam, 0 to 2 percent slopes. Included in mapping are 10 percent areas of Garretson gravelly loam; and 5 percent Pleasanton gravelly loam.

This soil is used for irrigated row crops, sugar beets, prunes, apricots, walnuts, pears, grapes and dryland pasture. About 30 percent of this soil is used for housing and commercial developments. Capability unit IIe5 (14).

ZAMORA SERIES

The Zamora series consists of well drained soils having moderately fine textured subsoils, underlain by alluvium of mixed origin. They are formed on nearly level to moderately sloping alluvial fans. Vegetation is chiefly annual grasses and forbs, with scattered oak trees. Elevations range from 200 to 1,000 feet. Mean annual rainfall is 16 to 20 inches; mean annual air temperature is 58 to 60° F. and the growing season is about 250 to 300 days. Pleasanton and Yolo are the principal associated soils.

The surface soil averages 12 to 20 inches in thickness and is a dark grayish brown, neutral loam or clay loam. The subsoil is a dark brown or brown, neutral clay loam, ranging from 20 to 30 inches in thickness. The substratum is stratified, gravelly, sandy clay loam and fine sandy clay loam alluvium.

Zamora soils are used for irrigated row crops, orchards, vineyards, dryland hay and pasture. A few areas are used for housing and commercial developments.

Zamora clay loam, 0 to 2 percent slopes (ZbA). This soil occurs as nearly level fans in the Paradise Valley area and as smaller bodies throughout the survey area. Average slope is less than 2 percent.

Representative profile: In a prune orchard just about 30 feet southwest of the intersection of Bowden Avenue and Watsonville Road; Santa Clara County, California.

Ap 0 to 7 inches, dark grayish brown (10YR 4/2) clay loam, very dark grayish brown (10YR 3/2) moist; cloddy; hard, friable, sticky and plastic; few very fine roots; many very fine interstitial pores; neutral (pH 7.0); abrupt smooth boundary. (6 to 8 inches thick).

A12 7 to 15 inches, dark grayish brown (10YR 4/2) clay loam, very dark grayish brown (10YR 3/2) moist; massive; friable, sticky and plastic; few very fine and medium roots; neutral (pH 7.0); clear smooth boundary. (6 to 12 inches thick).

B21t 15 to 26 inches, dark brown (10YR 4/3) clay loam, dark brown (10YR 3/3) moist; moderate, medium subangular blocky structure; hard, friable, sticky and plastic; few very fine and medium roots; many very fine interstitial and tubular pores, a few medium tubular pores; continuous thick clay films lining pores and on ped faces; neutral (pH 7.0); clear wavy boundary. (11 to 14 inches thick).

B22t 26 to 35 inches, brown (10YR 5/3) clay loam, dark brown (10YR 4/3) moist; with a few fine faint mottles yellowish brown (10YR 5/4) dry and dark yellowish brown (10YR 4/4) moist; moderate medium subangular blocky structure; hard, friable, sticky and plastic; many very fine interstitial and tubular pores; also a few medium tubular pores; many thin clay films line pores and on ped faces; neutral (pH 7.0); clear smooth boundary. (9 to 16 inches thick).

C1 35 to 58 inches, brown (10YR 5/3) fine sandy clay loam, dark brown (10YR 4/3) moist; massive; slightly hard, very friable, sticky and plastic; many very fine interstitial and tubular pores; neutral (pH 7.0); clear smooth boundary. (20 to 30 inches thick).

C2 58 to 70 inches, pale brown (10YR 6/3) gravelly sandy clay loam, about 30 percent gravel, brown (10YR 5/3) moist; massive; slightly hard, very friable, nonsticky and nonplastic; many fine and very fine interstitial pores; neutral (pH 7.0).

Color of the surface soil is typically dark grayish brown. A few places may be grayish brown or dark brown. Reaction is neutral to slightly acid and changes little with depth from the surface to the substratum. Texture is a clay loam or silty clay loam. Color of the subsoil is dark brown or brown. Texture is a clay loam or gravelly clay loam. There is a slight clay increase from the surface to the subsoil. The substratum is lighter colored and more yellowish than the subsoil.

Included in mapping this soil are 10 percent areas of Pleasanton loam, occurring on the extending stringers of old fans; and, along drainageways, 5 percent small bodies of Yolo loam.

This well drained soil has a water holding capacity of about 10 to 11 inches. Fertility is high. Surface runoff is very slow and erosion is not a problem. Subsoil permeability is moderately slow. Favorable rooting depth is very deep.

This soil is used for irrigated row crops, prunes, apricots, walnuts, grapes, and dryland hay and pasture. Capability unit I-1 (14).

Zamora clay loam, 2 to 9 percent slopes (ZbC). This soil occurs as small to moderately sized areas on gently to moderately sloping fans. Average slope ranges from 3 to 5 percent. Texture is a silty clay loam,clay loam or gravelly clay loam. This soil holds 9 to 10 inches of water plants can use. Runoff is slow to medium.

rosion hazard is slight to moderate. Otherwise, this soil is imilar to Zamora clay loam, 0 to 2 percent slopes. Included in apping are areas of gravelly clay loam and gravelly loam texture.

his soil is used for irrigated row crops, prunes, apricots, alnuts, grapes and dryland pasture and hay; some housing and ommercial developments. Capability unit IIe5 (14).

amora loam, 0 to 2 percent slopes (ZaA). This soil occurs on mall nearly level fans throughout the survey area. The average slope is less than 2 percent. Color of the surface soil is grayish brown and the texture is a loam or light clay loam, and about 3 to 6 percent by volume of medium and fine gravel. It holds about 9 to 10 inches of water plants can use. Otherwise, this soil is similar to Zamora clay loam, 0 to 2 percent slopes. Included in mapping are 10 percent areas of Pleasanton loam; and 5 percent Yolo loam.

This soil is used for irrigated row crops, apricots, prunes, walnuts, grapes and dryland hay and pasture. A few acres are used for housing and commercial uses. Capability unit I-1 (14).

Zamora loam, 2 to 9 percent slopes (ZaC). This soil occupies gently to moderately sloping areas, with 3 to 6 percent average slopes. Surface soil color is grayish brown. Texture is a loam or light clay loam; with about 3 to 8 percent by volume of medium and fine gravel. Runoff is slow to medium and erosion hazard is slight to moderate. Otherwise, this soil is similar to Zamora clay loam, 0 to 2 percent slopes. Included in mapping are areas of 10 percent Hillgate silt loam; and 5 percent Pleasanton loam.

This soil is used for irrigated row crops, apricots, prunes, walnuts, grapes, and dryland hay and pasture. Capability unit IIel (14).

Zamora and Cropley soils, 2 to 9 percent slopes, severely eroded (ZeC3). These undifferentiated soils occur on gently to moderately sloping fans and toe slopes. Slopes are mostly short and toward deeply cut channels. Zamora clay loam and Cropley clay have been damaged by severe gully and sheet erosion. Included in mapping these soils are areas of 15 percent Azule clay loam; 5 percent Los Osos clay loam; and 5 percent Diablo clay.

These undifferentiated soils are used for dryland pasture and range. Because of uneven surfaces, gullies and deposition, it is not practical to cultivate these soils. Capability unit IVe5 (15); pasture and range for Zamora is Fine Loamy and pasture and range site for Cropley is Clayey.

Hydric Soils in Santa Clara Area

Map Symbol	Soil Name	Hydric Component	Location Notes
AcF	Altamont clay, 30 to 50 percent slopes		
AcE	Altamont clay, 15 to 30 percent slopes		
AcE2	Altamont clay, 15 to 30 percent slopes, eroded		
AcG2	Altamont clay, 50 to 75 percent slopes, eroded		
An	Alviso clay	Alviso (CA0141)	
ArA	Arbuckle gravelly loam, 0 t0 2 percent slopes		
AkC	Arbuckle loam, deep, 5 to 9 percent slopes		
AsE	Ayar clay, 15 to 30 percent slopes		
AsD	Ayar clay, 9 to 15 percent slopes		
AsF	Ayar clay, 30 to 50 percent slopes		
AuG	Azule clay loam, 30 to 75 percent slopes		
AuG2	Azule clay loam, 30 to 75 percent slopes, eroded		

Hydric Soils in Santa Clara Area

Map Symbol	Soil Name	Hydric Component	Location Notes
AvD2	Azule silty clay loam, 9 to 15 percent slopes, eroded		
AvE	Azule silty clay loam, 15 to 30 percent slopes		
AvE2	Azule silty clay loam, 15 to 30 percent slopes, eroded		
Ba	Bayshore clay loam	Bayshore (CA1337)	
BeG	Ben Lomond fine sandy loam, 50 to 75 percent slopes		
Ca	Campbell silty loam	Clear Lake (CA0013)	low alluvial plains
Cd	Campbell silty clay	Clear Lake (CA0013)	low alluvial plains
Cc	Campbell silty clay loam, clay substratum	Cambell (CA1356)	
Ce	Cambell silty clay, muck substratum	Cambell (CA1356)	
Cf	Castro clay		
Ch	Clear Lake clay drained	Cambell (CA1356) Sunnyvale (CA1381)	low bottoms alluvial plains
Cg	Clear Lake clay	Clear Lake (CA0013)	
Ck	Clear Lake clay saline	Clear Lake (CA1522)	

Hydric Soils in Santa Clara Area

Map Symbol	Soil Name	Hydric Component	Location Notes
CmE	Climara stony clay, 15 to 50 percent slopes		
CnD	Climara clay, 9 to 30 percent slopes		
CoB	Cortina very gravelly loam, 0 to 5 percent slopes	River wash	drainage ways
CrA	Cropley clay, 0 to 2 percent slopes	Clear Lake (CA0013)	Depressions
CrC	Cropley clay, 2 to 9 percent slopes		
CsA	Cropley clay loam 0 to 2 percent slopes	Cambell (CA1356)	
DaD	Diablo clay, 9 to 15 percent slopes		
DaE	Diablo clay, 15 to 30 percent slopes		
DaE2	Diablo clay, 15 to 30 percent eroded		
DaF	Diablo clay, 30 to 50 percent slopes		
EsA	Esparto loam, 0 to 2 percent slopes		
EsC	Esparto loam, 2 to 9 percent slopes		

Hydric Soils in Santa Clara Area

Map Symbol	Soil Name	Hydric Component	Location Notes
FaG	Felton silt loam, 50 to 75 percent slopes		
FaE	Felton silt loam, 15 to 30 percent slopes		
FaF	Felton silt loam, 30 to 50 percent slopes		
FbG	Felton-Ben Lomond complex, 50 to 75 percent slopes		
GaA	Garretson loam, gravel substratum 0 to 2 percent slopes		
GbB	Garretson gravelly loam, 0 to 5 percent slopes		
GpA	Garretson fine sany loam, 0 to 2 percent slopes		
GcG	Gaviota loam, 30 to 75 percent slopes		
GcD2	Gaviota loam, 5 to 15 percent slopes, eroded		
GcE	Gaviota loam, 15 to 30 percent slopes		
GkE2	Gaviota rocky loam 5 to 30 percent slopes, eroded		

Hydric Soils in Santa Clara Area

Map Symbol	Soil Name	Hydric Component	Location Notes
GhG2	Gaviota gravelly loam, 30 to 75 percent slopes, eroded		
GhG3	Gaviota gravelly 30 to 75 percent slopes, serverly eroded		
GmE	Gaviota-Los Gates complex, 15 to 30 percent slopes		
GmF	Gaviota-Los Gates complex, 30 to 50 percent slopes		
GoF	Gilroy clay loam, 30 to 50 percent slopes		
GoD	Gilroy clay loam, 5 to 30 percent slopes		
GoE2	Gilroy clay loam, 15 to 30 percent slopes, eroded		
GoG	Gilroy clay loam, 50 to 75 percent slopes		
HeG3	Henneke rocky clay loam, 30 to 75 percent slopes, severely eroded		
HfD2	Hillgate silt loam, 9 to 15 percent slopes, eroded		

Hydric Soils in Santa Clara Area

Map Symbol	Soil Name	Hydric Component	Location Notes
HfC	Hillgate silt loam, 2 to 9 percent slopes		
HfE2	Hillgate silt loam, 15 to 30 percent slopes, eroded		
HfF2	Hillgate stilt loam, 30 to 50 percent slopes, eroded		
InG2	Inks rocky clay loam, 50 to 75 percent slopes, eroded		
IsG3	Inks stony clay loam, 30 to 75 percent slopes, severly eroded		
KeC2	Keefers clay loam 2 to 9 percent slopes, eroded	Un-named soils	seep and marsh areas
KeA	Keefers clay loam, 0 to 2 percent slopes	Un-named soils	seep and marsh areas
KfB	Kitchen middens		
LaF	Lanslides		
LfG	Los Gatos gravelly loam, 50 to 75 percent slopes		
LfE2	Los Gatos gravelly loam, 15 to 30 percent slopes, eroded		

Hydric Soils in Santa Clara Area

Map Symbol	Soil Name	Hydric Component	Location Notes
LfF	Los Gatos gravelly loam, 30 to 50 percent slopes		
LgE	Los Gatos clay loam, 15 to 30 percent slopes		
LgE2	Los Gatos clay loam, 15 to 30 percent slopes, eroded		
LhG	Los Gatos-Gaviota complex, 50 to 75 percent slopes		
LkG3	Los Gatos and Maymen soils, 50 to 75 percent slopes, severely eroded		
LoE	Los Osos clay loam, 15 to 30 percent slopes		
LoF	Los Osos clay loam 30 to 50 percent slopes		
LoG	Los Osos clay loam, 50 to 75 percent slopes		
LrA	Los Robles clay loam, 0 to 2 percent slopes		
LrC	Los Robles clay loam, 2 to 9 percent slopes		
LtD	Los Trancos stony clay, 15 to 30 percent slopes		

Hydric Soils in Santa Clara Area

Map Symbol	Soil Name	Hydric Component	Location Notes
Ma	Made land		
MbF	Madonna loam, 30 to 50 percent slopes		
MbE	Madonna loam, 15 to 30 percent slopes		
MbE2	Madonna loam, 5 to 30 percent slopes, eroded		
MbG	Madonna loam, 50 to 75 percent slopes		
McB	Maxwell clay, 0 to 5 percent slopes		
MfG2	Maymen rocky fine sandy loam, 50 to 75 percent slopes, eroded		
MeF2	Maymen fine sandy loam, 15 to 50 percent slopes, eroded		
Mg	Mocho loam		
Mh	Mocho clay loam		
Mk	Mocho soils, undifferentiated		
MwF2	Montara rocky clay loam, 15 to 50 percent slopes, eroded		
MxF3	Montara stony clay loam, 30 to 50 percent slopes, severely eroded		

Hydric Soils in Santa Clara Area

Map Symbol	Soil Name	Hydric Component	Location Notes
MyE	Montara-Climara complex, 15 to 30 percent slopes		
Og	Orestimba silty clay loam	Orestimba	
Of	Orestimba clay loam	Orestimba	
Pd	Pacheco clay loam	Clear Lake (CA0013)	low alluvial plains
Pa	Pacheco fine sandy loam	Clear Lake (CA0013)	low alluvial plains
Pb	Pacheco silt loam, drained		
Pe	Pacheco clay loam, gravelly substratum	Pacheco (CA0048)	
Pf	Pacheco loams, clay substratum	Pacheco	small areas with high water tables
PgE	Parrish gravelly clay loam, 9 to 30 percent slopes		
PgF	Parrish gravelly clay loam, 30 to 50 percent slopes		
PgG	Parrish gravelly clay loam, 50 to 75 percent slopes		
Pg3	Permanente stony loam, 50 75 percent slopes, severely eroded		

Hydric Soils in Santa Clara Area

Map Symbol	Soil Name	Hydric Component	Location Notes
PkG	Pits		
PoA	Pleasanton loam, 0 to 2 percent slopes		
PoC	Pleasanton loam, 2 to 9 percent slopes		
PpA	Pleasanton gravelly loam, 0 to 2 percent slopes		
PpC	Pleasanton gravelly loam, 2 to 9 percent slopes		
PpD2	Pleasanton gravelly loam, 9 to 15 percent slopes, eroded		
PpE2	Pleasanton gravelly loam, 15 to 30 percent slopes, eroded		
PrD	Positas-Saratoga loams, 9 to 15 percent slopes		
PrC	Positas-Saratoga loams, 2 to 9 percent slopes		
RaA	Rincon clay loam, 0 to 2 percent slopes		

Hydric Soils in Santa Clara Area

Map Symbol	Soil Name	Hydric Component	Location Notes
Rg	Riverwash	Riverwash	
RnG	Rock land		
SaG2	San Andreas fine sandy loam, 30 to 75 percent slopes, eroded		
SaE2	San Andreas fine sandy loam, 15 to 30 percent slopes, eroded		
SbG	San Benito clay loam, 50 to 75 percent slopes		
SbE2	San Benito clay loam, 15 to 30 percent slopes, eroded		
SbF	San Benito clay loam, 30 to 50 percent slopes		
SbF3	San Benito clay loam, 30 to 50 percent slopes, severely eroded		
ScG	Santa Lucia shaly loam, 50 to 75 percent slopes		
ScF2	Santa Lucia shaly loam, 30 to 50 percent slopes, eroded		
SdA	San Ysidro loam, 0 to 2 percent slopes	San Ysidro	areas subjected to ponding
SdB2	San Ysidro loam, 2 to 9 percent slopes, eroded		

Hydric Soils in Santa Clara Area

Map Symbol	Soil Name	Hydric Component	Location Notes
SdD	San Ysidro loam, 9 to 15 percent slopes		
SeA	San Ysidro clay, overwash, 0 to 2 percent slopes		
SfA	San Ysidro loam, acid variant, 0 to 2 percent slopes		
SfC	San Ysidro loam, acid variant, 2 to 9 percent slopes		
SgC	Saratoga-Positas loams, 2 to 9 percent slopes		
SgD	Saratoga-Positas loams, 9 to 15 percent slopes		
SgE	Saratoga-Positas loams, 15 to 30 percent slopes		
ShE2	Soper gravelly loam, 15 to 30 percent slopes, eroded		
ShF	Soper gravelly loam, 30 to 50 percent slopes		
Sv	Sunnyvale silty clay, drained	Clear Lake (CA0013)	low alluvial plains
Su	Sunnyvale silty clay	Sunnyvale (CA1381)	

Hydric Soils in Santa Clara Area

Map Symbol	Soil Name	Hydric Component	Location Notes
TeF	Terrace Escarpments		
Tf	Tidal marsh	Tidal Marsh	
VaE2	Vallecitos loam, 15 to 30 percent slopes, eroded		
Vaf	Vallecitos loam, 30 to 50 percent slopes		
VaG2	Vallecitos loam, 50 to 75 percent slopes, eroded		
Wa	Willows clay	Willows (CA0419)	
Wb	Willows clay, slightly alkali	Willows (CA0419)	
YaA	Yolo loam, 0 to 2 percent slopes		
YaB	Yolo loam, 2 to 5 percent slopes		
YeA	Yolo silty clay loam, 0 to 2 percent slopes		
YeC	Yolo silty clay loam, 2 to 9 percent slopes		
ZbA	Zamora clay loam, 0 to 2 percent slopes		
ZbC	Zamora clay loam, 2 to 9 percent slopes		
ZaA	Zamora loam, 0 to 2 percent slopes		

Hydric Soils in Santa Clara Area

Map Symbol	Soil Name	Hydric Component	Location Notes
ZaC	Zamora loam, 2 to 9 percent slopes		
ZeC3	Zamora and Cropley soils, 2 to 9 percent slopes, severely eroded		

APPENDIX C
Data Forms: Routine On-Site Determination Method of the Upper Guadalupe River Flood Control Project Site

✓

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID: A-1B

Project/Site: Upper Guadalupe River Flood Control Project
Applicant/Owner: Santa Clara Valley Water District
Investigator: Gale Rankin

Date: 7/27/95
County: Santa Clara
State: California

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation?) [✓ Yes] No
Is the area a potential Problem Area? Yes No
(If needed, explain on reverse.)

Community ID: Seasonal wetland

VEGETATION

	Plant Species (*Indicates dominants)	Stratum	Indicator		Plant Species	Stratum	Indicator
1	Cyperus eragrostis	HERB	FACW	9			
2	Epilobium ciliatum		FACW	10			
3	Sparganium eurycarpum	↓	OBL	11			
4	Polypogon monspeliensis	↓	FACW+	12			
5	Xanthium strumarium	↓	FAC	13			
6	Polygonum sp.	↓	OBL	14			
7	Poa annua	↓	FACW-	15			
8				16			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100

Remarks:

HYDROLOGY

✓ Recorded Data (Describe in Remarks):
- ✓ Stream, Lake, or Tide Gauge
- ___ Aerial Photographs
- ___ Other

___ No Recorded Data Available

Field Observation:

Depth of Surface Water: 0-3" (in.)
Depth to Free Water in Pit: ______ (in.)
Depth to Saturated Soil: ______ (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ✓ Inundated - in some location
- ✓ Saturated in Upper 12 inches - on very edge of water
- ___ Water Marks
- ___ Drift Lines
- ___ Sediment Deposits
- ✓ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ___ Oxidized Root Channels in Upper 12 in.
- ___ Water-Stained Leaves
- ___ Local Soil Survey Data
- ___ FAC-Neutral Test
- ___ Other (Explain in Remarks)

Remarks: upper limit of OHW determined in part by observations downstream, where indications (shelving, erosion) are more evident due to absence of fill. Wetland is located on steep bank directly adjacent to low-flow channel.

SOILS

Map Unit Name
(Series and Phase) Croxley Clay loam 0-2% slopes

Drainage Class: ____

Field Observations Confirm Mapped Type? Yes [✓ No]

Taxonomy (Subgroup) ____

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.

Hydric Soil Indicators:

- ____ Histosol
- ____ Histic Epipedon
- ____ Sulfidic Odor
- ✓ Aquic Moisture Regime
- ____ Reducing Conditions
- ____ Gleyed or Low-Chrome colors
- ____ Concretions
- ____ High Organic Content in Surface Layer in Sandy Soils
- ____ Organic Streaking in Sandy Soils
- ____ Listed on Local Hydric Soils List
- ____ Listed on National Hydric Soils List
- ____ Other (Explain in Remarks)

Remarks: no pit dug. Patches of exposed soil occasionally present. Most is overlain with concrete fill. Below OHW, presume aquic moisture regime

WETLAND DETERMINATION

(Circle)

Hydrophytic Vegetation Present? [✓ Yes] No
Wetland Hydrology Present? [✓ Yes] No
Hydric Soils Present? [✓ Yes] No

(Circle)

Is this Sampling Point Within a Wetland? [✓ ~~Yes~~] No

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID: A-2A

Project/Site: Upper Guadalupe River Flood Control Project	Date: 7/22/95
Applicant/Owner: Santa Clara Valley Water District	County: Santa Clara
Investigator: Gale Rankin	State: California

Do Normal Circumstances exist on the site?	[✓ Yes] No	Community ID: Ruderal/Grassland
Is the site significantly disturbed (Atypical Situation?)	Yes [✓ No]	
Is the area a potential Problem Area? (If needed, explain on reverse.)	Yes [✓ No]	

VEGETATION

	Plant Species (*Indicates dominants)	Stratum	Indicator		Plant Species	Stratum	Indicator
*	1 Avena fatua	Herbs	UPL		9		
	2 Rumex crispus	↓	FACW-		10		
	3 Foeniculum vulgare	↓	FACU		11		
*	4 Piptatherum miliaceum	↓	UPL		12		
	5 Raphanus sativus	↓	UPL		13		
	6 Solanum americanum	↓	FAC		14		
	7 Echinochloa crus-galli	↓	FACW		15		
	8				16		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 0

Remarks: UPL species are overwhelmingly dominants

HYDROLOGY

______ Recorded Data (Describe in Remarks):	Wetland Hydrology Indicators:
______ Stream, Lake, or Tide Gauge	Primary Indicators:
______ Aerial Photographs	______ Inundated
______ Other	______ Saturated in Upper 12 inches
______ No Recorded Data Available	______ Water Marks
	______ Drift Lines
Field Observation:	______ Sediment Deposits
	______ Drainage Patterns in Wetlands
Depth of Surface Water: ______(in.)	Secondary Indicators (2 or more required):
Depth to Free Water in Pit: ______(in.)	______ Oxidized Root Channels in Upper 12 in.
	______ Water-Stained Leaves
Depth to Saturated Soil: ______(in.)	______ Local Soil Survey Data
	______ FAC-Neutral Test
	______ Other (Explain in Remarks)

Remarks: Located above OHW, on second bench from channel (see diagram point A-2B) Debris deposits abundant, consisting of vegetation (straw, some wood etc.) These are presumed to be from 25 yr flood event several months ago.

SOILS

Map Unit Name
(Series and Phase) Cropley clay loam 0-2% slopes

Drainage Class: ____

Field Observations Confirm Mapped Type? Yes [✓ No]

Taxonomy (Subgroup) ____

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
10"		10 YR 3/2	7.5 YR 5/8	moderately abundant	

Hydric Soil Indicators:

____ Histosol
____ Histic Epipedon
____ Sulfidic Odor
____ Aquic Moisture Regime
____ Reducing Conditions
✓ Gleyed or Low-Chrome colors

____ Concretions
____ High Organic Content in Surface Layer in Sandy Soils
____ Organic Streaking in Sandy Soils
____ Listed on Local Hydric Soils List
____ Listed on National Hydric Soils List
____ Other (Explain in Remarks)

Remarks:
soil Chroma may have resulted from historical conditions, Channel & bank have previously been widened for flood control

WETLAND DETERMINATION

(Circle)

Hydrophytic Vegetation Present? Yes [✓ No]
Wetland Hydrology Present? Yes [✓ No]
Hydric Soils Present? [✓ Yes] No

Is this Sampling Point Within a Wetland? (Circle) Yes [✓ No]

Remarks:

✓

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID: A-2B

Project/Site: Upper Guadalupe River Flood Control Project
Applicant/Owner: Santa Clara Valley Water District
Investigator: Gale Rankin

Date: 7/27/95
County: Santa Clara
State: California

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation?) Yes [✓ No]
Is the area a potential Problem Area? [✓ Yes] No
(If needed, explain on reverse.)

Community ID: Seasonal wetland

VEGETATION

Plant Species (*Indicates dominants)	Stratum	Indicator	Plant Species	Stratum	Indicator
1 Poa annua	HERB	FACW-	9 Kickxia spuria	HERB	UPL
* 2 Echinochloa crus-galli	↓	FACW	10 Polypogon monspeliensis	↓	FACW+
3 Picris echioides		FAC	11		
4 Epilobium ciliatum		FACW	12		
* 5 Polygonum hydropiperoides		OBL	13		
6 Gnaphium sp		–	14		
* 7 Melilotus albus		FACU+	15		
8 Polygonum lapathifolium		OBL	16		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 66

Remarks: Melilotus is predominant

HYDROLOGY

✓ Recorded Data (Describe in Remarks):
✓ Stream, Lake, or Tide Gauge
____ Aerial Photographs
____ Other
____ No Recorded Data Available

Field Observation:

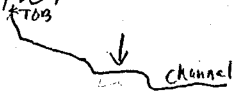
Depth of Surface Water: ____(in.)
Depth to Free Water in Pit: ____(in.)
Depth to Saturated Soil: ____(in.)

Wetland Hydrology Indicators:

Primary Indicators:
____ Inundated
____ Saturated in Upper 12 inches
____ Water Marks
____ Drift Lines
✓ Sediment Deposits
✓ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
____ Oxidized Root Channels in Upper 12 in.
____ Water-Stained Leaves
____ Local Soil Survey Data
____ FAC-Neutral Test
____ Other (Explain in Remarks)

Remarks: Located on moderately flat bench directly above low-flow channel. Bounded on uphill side by clear topographic break, bare scoured soils. Is below OHW.



SOILS

Map Unit Name
(Series and Phase) Cropley Clay loam 0-2% slopes

Drainage Class: ___

Field Observations Confirm Mapped Type? Yes [✓ No]

Taxonomy (Subgroup) ___

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-3					Sandy
3-10"		10YR 3/2	2.5YR 5/8	Abundant <2mm in size	Clay (w/ silt)

Hydric Soil Indicators:

___ Histosol
___ Histic Epipedon
___ Sulfidic Odor
✓ Aquic Moisture Regime
___ Reducing Conditions
✓ Gleyed or Low-Chrome colors

___ Concretions
___ High Organic Content in Surface Layer in Sandy Soils
___ Organic Streaking in Sandy Soils
___ Listed on Local Hydric Soils List
___ Listed on National Hydric Soils List
___ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

(Circle)

Hydrophytic Vegetation Present? [✓ Yes] No
Wetland Hydrology Present? [✓ Yes] No
Hydric Soils Present? [✓ Yes] No

(Circle)

Is this Sampling Point Within a Wetland? [✓ Yes] No

Remarks:
Although dominated strongly by a fac-up species, The soils and hydrology features are quite strong. Areas just up & downstream at the same elevation are dominated by hydrophytes (Lepidium, Xanthium). Presume this area functions as a wetland

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID: A-3A

Project/Site: Upper Guadalupe River Flood Control Project
Applicant/Owner: Santa Clara Valley Water District
Investigator: Gale Rankin

Date: 7/28/95
County: Santa Clara
State: California

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation?) Yes [✓ No]
Is the area a potential Problem Area? [✓ Yes] No
(If needed, explain on reverse.)

Community ID: Ruderal

VEGETATION

Plant Species (*Indicates dominants)	Stratum	Indicator	Plant Species	Stratum	Indicator
1 Plantago lanceolata	HERB	FACW	9		
2 Populus fremontii	S/S	FACW	10		
3 Lepidium latifolium	HERB	FACW	11		
4 Melilotus albus	↓	FACU+	12		
5 Piptatherum miliaceum	↓	UPL	13		
6 Juglans cal. hindsii	S/S	FAC	14		
7 Avena fatua	HERB	UPL	15		
8			16		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 50

Remarks: sparsely vegetated

HYDROLOGY

_______ Recorded Data (Describe in Remarks):
_______ Stream, Lake, or Tide Gauge
_______ Aerial Photographs
_______ Other
_______ No Recorded Data Available

Field Observation:

Depth of Surface Water: _______(in.)
Depth to Free Water in Pit: _______(in.)
Depth to Saturated Soil: _______(in.)

Wetland Hydrology Indicators:

Primary Indicators:
_______ Inundated
_______ Saturated in Upper 12 inches
_______ Water Marks
_______ Drift Lines
_______ Sediment Deposits
_______ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
_______ Oxidized Root Channels in Upper 12 in.
_______ Water-Stained Leaves
_______ Local Soil Survey Data
_______ FAC-Neutral Test
_______ Other (Explain in Remarks)

Remarks: Scour lines and drift debris present, but higher on sloping bench than point B & separated from it in several locations at up & downstream ends by a scoured ledge. Presumed to be Above OHW. Lower limit conforms with upper limit of dense melilotus stand. (see A-3B, hydro.)

SOILS

Map Unit Name
(Series and Phase) Cropley clay loam 0-2% slopes

Drainage Class: ____________

Field Observations Confirm Mapped Type? Yes [✓ No]

Taxonomy (Subgroup) ____________

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
10"		10YR 3/2	none		Sandy loam (?)

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low-Chrome colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks: upper 5" less sandy & has some small mottles (light color).

WETLAND DETERMINATION

(Circle)

Hydrophytic Vegetation Present? [✓ Yes] No
Wetland Hydrology Present? Yes [✓ No]
Hydric Soils Present? Yes [✓ No]

(Circle)
Is this Sampling Point Within a Wetland? Yes [✓ No]

Remarks: This is a mixed, somewhat ambiguous area. Lepidium is also found on steep, high bank slopes in other (non-wetlands) locations in the vicinity, where soils are very disturbed. Based on OHW evidence up & downstream, this site is just above OHW, & does not, therefore, have wetland hydrology or soils. Vegetation is extremely sparse.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID: A-3B

Project/Site: Upper Guadalupe River Flood Control Project
Applicant/Owner: Santa Clara Valley Water District
Investigator: Gale Rankin

Date: 7/27/95
County: Santa Clara
State: California

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation?) Yes [✓ No]
Is the area a potential Problem Area? [✓ Yes] No
(If needed, explain on reverse.)

Community ID: Seasonal/ Emergent Wetland

VEGETATION

Plant Species (*Indicates dominants)	Stratum	Indicator	Plant Species	Stratum	Indicator
* 1 Scirpus acutus	HERB	OBL	9		
2 Sparganium eurycarpum	↓	OBL	10		
* 3 Melilotus albus		FACU-	11		
4 Poa annua		FACW-	12		
5 Picris echioides		FAC	13		
6 Xanthium strumarium		FAC	14		
7 Polygonum hydropiperoides		FACW+	15		
* 8 Typha angustifolia		OBL	16		

Percent of Dominant Species that are OBL, FACW or FAC
(excluding FAC-). 66

Remarks:

HYDROLOGY

✓ Recorded Data (Describe in Remarks):
- ✓ Stream, Lake, or Tide Gauge
- ___ Aerial Photographs
- ___ Other

___ No Recorded Data Available

Field Observation:

Depth of Surface Water: ________(in.)
Depth to Free Water in Pit: ________(in.)
Depth to Saturated Soil: ________(in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ___ Inundated
- ___ Saturated in Upper 12 inches
- ___ Water Marks
- ✓ Drift Lines
- ✓ Sediment Deposits
- ✓ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ___ Oxidized Root Channels in Upper 12 in.
- ___ Water-Stained Leaves
- ___ Local Soil Survey Data
- ___ FAC-Neutral Test
- ___ Other (Explain in Remarks)

Remarks: Site on bench above well defined lowflow Channel - ~ 1-1.5' above existing H_2O This bench & a higher bench have deposited debris & scour lines (scour lines to TOB). OHW limit somewhat indistinct - more distinct U.S. - rely on U.S. levels & veg. to determine OHW level.

SOILS

Map Unit Name (Series and Phase) Cropley Clay loam 0-2% slopes

Drainage Class:

Field Observations Confirm Mapped Type? Yes [✓ No]

Taxonomy (Subgroup)

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
6"		10YR 3/2	10YR 6/8	uneven distr., occ. abundant	Sandy loam (?)
below 6"	rocky				

Hydric Soil Indicators:

- ___ Histosol
- ___ Histic Epipedon
- ___ Sulfidic Odor
- ✓ Aquic Moisture Regime
- ___ Reducing Conditions
- ___ Gleyed or Low-Chrome colors
- ___ Concretions
- ___ High Organic Content in Surface Layer in Sandy Soils
- ___ Organic Streaking in Sandy Soils
- ___ Listed on Local Hydric Soils List
- ___ Listed on National Hydric Soils List
- ___ Other (Explain in Remarks)

Remarks: Presume long term inundation below OHW

WETLAND DETERMINATION

(Circle)

Hydrophytic Vegetation Present? [✓ Yes] No
Wetland Hydrology Present? [✓ Yes] No
Hydric Soils Present? [✓ Yes] No

(Circle)

Is this Sampling Point Within a Wetland? [✓ Yes] No

Remarks:
Hydrology ambiguous

✓

Prob

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID: A-4A

Project/Site: Upper Guadalupe River Flood Control Project
Applicant/Owner: Santa Clara Valley Water District
Investigator: Gale Rankin

Date: 7/27/95
County: Santa Clara
State: California

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation?) Yes [✓ No]
Is the area a potential Problem Area? [✓ Yes] No
(If needed, explain on reverse.)

Community ID: Ruderal

VEGETATION

Plant Species (*Indicates dominants)	Stratum	Indicator	Plant Species	Stratum	Indicator
* 1 Lepidium latifolium	HERB	FACW	9		
2 ? glomeratum	↓		10		
3 Rumex Crispus		FACW-	11		
4 Raphanus sativus		UPL	12		
5			13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100

Remarks: Avena & bromus come in at higher elevations on slope - vegetation cover sparse to medium

HYDROLOGY

_______ Recorded Data (Describe in Remarks):
  _______ Stream, Lake, or Tide Gauge
  _______ Aerial Photographs
  _______ Other
_______ No Recorded Data Available

Field Observation:

Depth of Surface Water: _______ (in.)

Depth to Free Water in Pit: _______ (in.)

Depth to Saturated Soil: _______ (in.)

Wetland Hydrology Indicators:

Primary Indicators:
_______ Inundated
_______ Saturated in Upper 12 inches
_______ Water Marks
_______ Drift Lines
_______ Sediment Deposits
_______ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
_______ Oxidized Root Channels in Upper 12 in.
_______ Water-Stained Leaves
_______ Local Soil Survey Data
_______ FAC-Neutral Test
_______ Other (Explain in Remarks)

Remarks: Located above lower bench. This higher bench slopes up towards Steep bank. Is ~1.5-2' above lower bench on average. Appears to be above OHW level
Plant debris deposits presumed to be from 25 year flood event only

SOILS

Map Unit Name (Series and Phase) Cropley Clay loam 0-2% slopes

Drainage Class:

Field Observations Confirm Mapped Type? Yes [✓ No]

Taxonomy (Subgroup)

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
10"		10YR 3/2			Sandy loam (quite sandy)

Hydric Soil Indicators:

☐	Histosol	☐	Concretions
☐	Histic Epipedon	☐	High Organic Content in Surface Layer in Sandy Soils
☐	Sulfidic Odor	☐	Organic Streaking in Sandy Soils
☐	Aquic Moisture Regime	☐	Listed on Local Hydric Soils List
☐	Reducing Conditions	☐	Listed on National Hydric Soils List
☐	Gleyed or Low-Chrome colors	☐	Other (Explain in Remarks)

Remarks: no indicators seen

WETLAND DETERMINATION

(Circle)

Hydrophytic Vegetation Present? [✓ Yes] No

Wetland Hydrology Present? Yes [✓ No]

Hydric Soils Present? Yes [✓ No]

Is this Sampling Point Within a Wetland? (Circle) Yes [✓ No]

Remarks: This area is transitional. The well defined lower bench below it is presumed to be the limit of OHW. Therefore, despite the dominance of the area by a weedy invasive FACW species, the area is considered upland. (See remarks on Lepidium sheet. A-3A)

✓

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID: A-4B

Project/Site: Upper Guadalupe River Flood Control Project
Applicant/Owner: Santa Clara Valley Water District
Investigator: Gale Rankin

Date: 6/27
County: Santa Clara
State: California

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation?) Yes [✓ No]
Is the area a potential Problem Area? Yes [✓ No]
(If needed, explain on reverse.)

Community ID: Seasonal/perennial wetland

VEGETATION

Plant Species (*Indicates dominants)	Stratum	Indicator	Plant Species	Stratum	Indicator
* 1 Polygonum lapathifolium	HERB	OBL	9 Raphanus sativus	HERB	UPL
* 2 Polygonum hydropiperoides	↓	OBL	10		
3 Xanthium strumarium	↓	FAC	11		
4 Brassica rapa	↓	UPL	12		
5 Polypogon monspeliensis	↓	FACW	13		
6 Typha angustifolia	↓	OBL	14		
7 Echinochloa crus-galli	↓	FACW	15		
8 Sparganium eurycarpum	↓	OBL	16		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100

Remarks:
Cover extremely dense

HYDROLOGY

✓ Recorded Data (Describe in Remarks):
- ✓ Stream, Lake, or Tide Gauge
- ___ Aerial Photographs
- ___ Other

___ No Recorded Data Available

Field Observation:

Depth of Surface Water: ______(in.)

Depth to Free Water in Pit: ______(in.)

Depth to Saturated Soil: ______(in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ___ Inundated
- ___ Saturated in Upper 12 inches
- ___ Water Marks
- ___ Drift Lines
- ___ Sediment Deposits
- ✓ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ___ Oxidized Root Channels in Upper 12 in.
- ___ Water-Stained Leaves
- ___ Local Soil Survey Data
- ___ FAC-Neutral Test
- ___ Other (Explain in Remarks)

Remarks:
ON BENCH ADJACENT TO LOW-FLOW channel, scoured ledge (on northbound side) leads up to next level IS within OHW.

SOILS

Map Unit Name (Series and Phase) Cropley Clay loam 0-2% slopes

Drainage Class:

Field Observations Confirm Mapped Type? Yes [✓ No]

Taxonomy (Subgroup)

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
10"					sandy

Hydric Soil Indicators:

- Histosol
- Histic Epipedon
- Sulfidic Odor
- ✓ Aquic Moisture Regime
- Reducing Conditions
- Gleyed or Low-Chrome colors
- Concretions
- High Organic Content in Surface Layer in Sandy Soils
- Organic Streaking in Sandy Soils
- Listed on Local Hydric Soils List
- Listed on National Hydric Soils List
- Other (Explain in Remarks)

Remarks: can't get color - sandy
Presume aquic moisture regime below OHW

WETLAND DETERMINATION

(Circle)

Hydrophytic Vegetation Present? [✓ Yes] No
Wetland Hydrology Present? [✓ Yes] No
Hydric Soils Present? [✓ Yes] No

(Circle)

Is this Sampling Point Within a Wetland? [✓ Yes] No

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID

A-5A

Project/Site: Upper Guadalupe River Flood Control Project Applicant/Owner: Santa Clara Valley Water District Investigator: Gale Rankin	Date: 7/27/95 County: Santa Clara State: California
Do Normal Circumstances exist on the site? [✓ Yes] No Is the site significantly disturbed (Atypical Situation?) Yes [✓ No] Is the area a potential Problem Area? Yes [✓ No] (If needed, explain on reverse.)	Community ID: Ruderal/Scrub

VEGETATION

Plant Species (*Indicates dominants)	Stratum	Indicator	Plant Species	Stratum	Indicator
X 1 Raphanus sativus	HERB	UPL	9		
X 2 Baccharis pilularis	S/S	UPL	10		
3 Grass (unk)	HERB	–	11		
4			12		
5			13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 0

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

____ Recorded Data (Describe in Remarks):
- ____ Stream, Lake, or Tide Gauge
- ____ Aerial Photographs
- ____ Other

____ No Recorded Data Available

Field Observation:

Depth of Surface Water: ____(in.)

Depth to Free Water in Pit: ____(in.)

Depth to Saturated Soil: ____(in.)

Primary Indicators:
- ____ Inundated
- ____ Saturated in Upper 12 inches
- ____ Water Marks
- ____ Drift Lines
- ____ Sediment Deposits
- ____ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ____ Oxidized Root Channels in Upper 12 in.
- ____ Water-Stained Leaves
- ____ Local Soil Survey Data
- ____ FAC-Neutral Test
- ____ Other (Explain in Remarks)

Remarks: No field indicators. Located on high bench that abruptly rises ~7 feet from channel bed.

SOILS

Map Unit Name
(Series and Phase) Cropley Clay Loam 0-2% slopes

Drainage Class: ____________

Field Observations Confirm Mapped Type? Yes [✓ No]

Taxonomy (Subgroup) ____________

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.

Hydric Soil Indicators:

____ Histosol
____ Histic Epipedon
____ Sulfidic Odor
____ Aquic Moisture Regime
____ Reducing Conditions
____ Gleyed or Low-Chrome colors

____ Concretions
____ High Organic Content in Surface Layer in Sandy Soils
____ Organic Streaking in Sandy Soils
____ Listed on Local Hydric Soils List
____ Listed on National Hydric Soils List
____ Other (Explain in Remarks)

Remarks: Not tested

WETLAND DETERMINATION

(Circle)

Hydrophytic Vegetation Present? Yes [✓ No]
Wetland Hydrology Present? Yes [✓ No]
Hydric Soils Present? Yes [✓ No]

Is this Sampling Point Within a Wetland? (Circle) Yes [✓ No]

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID: A-5B

Project/Site: Upper Guadalupe River Flood Control Project
Applicant/Owner: Santa Clara Valley Water District
Investigator: Gale Rankin

Date: 7/27/95
County: Santa Clara
State: California

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation?) Yes [✓ No]
Is the area a potential Problem Area? Yes [✓ No]
(If needed, explain on reverse.)

Community ID: Seasonal wetland

VEGETATION

Plant Species (*Indicates dominants)	Stratum	Indicator	Plant Species	Stratum	Indicator
* 1 Epilobium ciliatum	HERB	FACW	9		
* 2 Polygonum sp	↓	≥FAC	10		
* 3 Cyperus eragrostis		FACW	11		
4 Echinochloa crus-galli		FACW	12		
5 Picris echioides		FAC	13		
6 Solanum americanum		FAC	14		
7 Rorippa nasturtium aquaticum		OBL	15		
8			16		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100

Remarks:

HYDROLOGY

✓ Recorded Data (Describe in Remarks):
- ✓ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☐ No Recorded Data Available

Field Observation:

Depth of Surface Water: ______ (in.)

Depth to Free Water in Pit: ______ (in.)

Depth to Saturated Soil: ______ (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☐ Inundated
- ☐ Saturated in Upper 12 inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ✓ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☐ Oxidized Root Channels in Upper 12 in.
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks: ON COBBLE BAR, ADJACENT TO LOW FLOW CHANNEL, BARELY HIGHER THAN EXISTING H_2O. IS WITHIN OHW. UPPER EDGE IS VERTICAL, SCOURED BANK. RISING ~6' abruptly

SOILS

Map Unit Name
(Series and Phase) Cropley Clay loam 0-2% slopes

Drainage Class:

Field Observations Confirm Mapped Type? Yes [✓ No]

Taxonomy (Subgroup)

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ✓ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low-Chrome colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

Presume long term inundation below OHW

WETLAND DETERMINATION

(Circle)

Hydrophytic Vegetation Present? [✓ Yes] No
Wetland Hydrology Present? [✓ Yes] No
Hydric Soils Present? [✓ Yes] No

(Circle)
Is this Sampling Point Within a Wetland? [✓ Yes] No

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID: A6-A

Project/Site: Upper Guadalupe River Flood Control Project
Applicant/Owner: Santa Clara Valley Water District
Investigator: Gale Rankin

Date: 8/27/95
County: Santa Clara
State: California

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation?) Yes No
Is the area a potential Problem Area? Yes No
(If needed, explain on reverse.)

Community ID: Ruderal

VEGETATION

	Plant Species (*Indicates dominants)	Stratum	Indicator		Plant Species	Stratum	Indicator
* 1	Raphanus sativus	HERB	UPL	9			
2	Carduus pycnocephalus	↓	UPL	10			
* 3	Bromus diandrus	↓	UPL	11			
4	Lolium multiflorum	↓	FAC	12			
5	Melilotus albus	↓	FACU+	13			
6				14			
7				15			
8				16			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 0

Remarks:

HYDROLOGY

____ Recorded Data (Describe in Remarks):
____ Stream, Lake, or Tide Gauge
____ Aerial Photographs
____ Other
____ No Recorded Data Available

Field Observation:

Depth of Surface Water: ____ (in.)
Depth to Free Water in Pit: ____ (in.)
Depth to Saturated Soil: ____ (in.)

Wetland Hydrology Indicators:

Primary Indicators:
____ Inundated
____ Saturated in Upper 12 inches
____ Water Marks
____ Drift Lines
____ Sediment Deposits
____ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
____ Oxidized Root Channels in Upper 12 in.
____ Water-Stained Leaves
____ Local Soil Survey Data
____ FAC-Neutral Test
____ Other (Explain in Remarks)

Remarks: ON BENCH ABOVE pt A6-B. No indicators observed. Bench rises quickly in elevation.

SOILS

Map Unit Name
(Series and Phase) Cropley Clay loam 0-2% slopes

Drainage Class:

Field Observations Confirm Mapped Type?
Yes [✓ No]

Taxonomy (Subgroup)

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
10"		10YR 3/2			

Hydric Soil Indicators:

Histosol
Histic Epipedon
Sulfidic Odor
Aquic Moisture Regime
Reducing Conditions
Gleyed or Low-Chrome colors

Concretions
High Organic Content in Surface Layer in Sandy Soils
Organic Streaking in Sandy Soils
Listed on Local Hydric Soils List
Listed on National Hydric Soils List
Other (Explain in Remarks)

Remarks: no field indications

WETLAND DETERMINATION

(Circle)
Hydrophytic Vegetation Present? Yes [✓ No]
Wetland Hydrology Present? Yes [✓ No]
Hydric Soils Present? Yes [✓ No]

(Circle)
Is this Sampling Point Within a Wetland? Yes [✓ No]

Remarks:

?

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID: A-6B

Project/Site: Upper Guadalupe River Flood Control Project
Applicant/Owner: Santa Clara Valley Water District
Investigator: Gale Rankin

Date: 7/27/95
County: Santa Clara
State: California

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation?) Yes [✓ No]
Is the area a potential Problem Area? Yes [✓ No]
(If needed, explain on reverse.)

Community ID: Seasonal wetland

VEGETATION

Plant Species (*Indicates dominants)	Stratum	Indicator	Plant Species	Stratum	Indicator
* 1 Melilotus albus	HERB	FACU-	9		
common * 2 Poa annua	↓	FACW-	10		
* 3 Polypogon monspeliensis	↓	FACW+	11		
4 Gnaphalium sp.	↓	—	12		
5 Heliotropium curassavicum	↓	OBL	13		
6 Echinochloa crus galli	↓	FACW	14		
7 Foeniculum vulgare	↓	FACU	15		
8			16		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 66

Remarks: vegetation cover dense. Melilotus is the only dominant in overstory. Poa and Polygonum are abundant in dark understory beneath the Melilotus. Since these are not very shade tolerant, presume they were overtopped by late-season growth of Melilotus

HYDROLOGY

✓ Recorded Data (Describe in Remarks):
- ✓ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☐ No Recorded Data Available

Field Observation:

Depth of Surface Water: ________ (in.)

Depth to Free Water in Pit: ________ (in.)

Depth to Saturated Soil: ________ (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☐ Inundated
- ☐ Saturated in Upper 12 inches
- ☐ Water Marks
- ☐ Drift Lines
- ✓ Sediment Deposits
- ✓ Drainage Patterns in Wetlands
- ✓ Algal mats (on leading edge only)

Secondary Indicators (2 or more required):
- ☐ Oxidized Root Channels in Upper 12 in.
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks: ON SLOPING BENCH ~ 2' above existing H_2O. Upper edge rises abruptly 6-12" soils here are scoured. Area is within OHW.

SOILS

Map Unit Name
(Series and Phase) Cropley Clay loam 0-2% slopes

Drainage Class:

Field Observations Confirm Mapped Type? Yes [✓ No]

Taxonomy (Subgroup)

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
10"		2.5Y 4/2	2.5Y 6/8 &	Common 2mm- 5mm or more	clayey w some silt & sand.
		↓	2.5YR 4/8		
		some surfaces			
		2.5Y 4/1			

Hydric Soil Indicators:

	Histosol		Concretions
	Histic Epipedon		High Organic Content in Surface Layer in Sandy Soils
	Sulfidic Odor		Organic Streaking in Sandy Soils
✓	Aquic Moisture Regime		Listed on Local Hydric Soils List
	Reducing Conditions		Listed on National Hydric Soils List
✓	Gleyed or Low-Chrome colors		Other (Explain in Remarks)

Remarks: mottles along old root channels (very fine) & also large, rounded & flat, also on layered seams

WETLAND DETERMINATION

	(Circle)
Hydrophytic Vegetation Present?	[✓ Yes] No
Wetland Hydrology Present?	[✓ Yes] No
Hydric Soils Present?	[✓ Yes] No

Is this Sampling Point Within a Wetland? (Circle) [✓ Yes] No

Remarks:

✓

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID

A7-A

Project/Site: Upper Guadalupe River Flood Control Project Applicant/Owner: Santa Clara Valley Water District Investigator: Gale Rankin	Date: 7/28/95 County: Santa Clara State: California
Do Normal Circumstances exist on the site? [✓ Yes] No Is the site significantly disturbed (Atypical Situation?) Yes [✓ No] Is the area a potential Problem Area? Yes [✓ No] (If needed, explain on reverse.)	Community ID: Ruderal

VEGETATION

Plant Species (*Indicates dominants)	Stratum	Indicator	Plant Species	Stratum	Indicator
1 Melilotus albus	HERB	FACU-	9 Lepidium latifolium	↓	FACW
2 Brassica rapa	↓	UPL	10		
3 Picris echioides	↓	FAC	11		
4 Piptatherum miliaceum	↓	UPL	12		
5 Phalaris sp. (perenial)	↓	–	13		
6 Artemisia douglasiana	↓	FACW	14		
7 Lolium multiflorum	↓	FAC	15		
8 Kickxia spuria	↓	UPL	16		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 0

Remarks:

HYDROLOGY

___ Recorded Data (Describe in Remarks):
___ Stream, Lake, or Tide Gauge
___ Aerial Photographs
___ Other
___ No Recorded Data Available

Field Observation:

Depth of Surface Water: ___ (in.)

Depth to Free Water in Pit: ___ (in.)

Depth to Saturated Soil: ___ (in.)

Wetland Hydrology Indicators:

Primary Indicators:
___ Inundated
___ Saturated in Upper 12 inches
___ Water Marks
___ Drift Lines
___ Sediment Deposits
___ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
___ Oxidized Root Channels in Upper 12 in.
___ Water-Stained Leaves
___ Local Soil Survey Data
___ FAC-Neutral Test
___ Other (Explain in Remarks) At upper limit

Remarks: Some signs of erosion on bench on which point is located. Steep 15' bank rises up to TOB and is eroded, a places, to near the top. These erosional features are presumed to have resulted from 10-25 year flood events like those of 1995. Site is located above OHW.

SOILS

Map Unit Name
(Series and Phase) Cropley Clay Loam 0-2% Slopes

Drainage Class:

Field Observations Confirm Mapped Type? Yes [✓ No]

Taxonomy (Subgroup)

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
6"		10YR 3/2			very hard soil, compacted loam? or clay?

Hydric Soil Indicators:

Histosol
Histic Epipedon
Sulfidic Odor
Aquic Moisture Regime
Reducing Conditions
Gleyed or Low-Chrome colors

Concretions
High Organic Content in Surface Layer in Sandy Soils
Organic Streaking in Sandy Soils
Listed on Local Hydric Soils List
Listed on National Hydric Soils List
Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

(Circle)
Hydrophytic Vegetation Present? Yes [✓ No]
Wetland Hydrology Present? Yes [✓ No]
Hydric Soils Present? Yes [✓ No]

(Circle)
Is this Sampling Point Within a Wetland? Yes [✓ No]

Remarks:

✓

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID
A-7B

Project/Site: Upper Guadalupe River Flood Control Project
Applicant/Owner: Santa Clara Valley Water District
Investigator: Gale Rankin

Date: 7/28/95
County: Santa Clara
State: California

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation?) Yes [✓ No]
Is the area a potential Problem Area? Yes [✓ No]
(If needed, explain on reverse.)

Community ID:
Emergent marsh

VEGETATION

Plant Species (*Indicates dominants)	Stratum	Indicator	Plant Species	Stratum	Indicator
* 1 Sparganium eurycarpum	HERB	OBL	9		
2 Ludwigea peploides	↓	OBL	10		
3 Epilobium ciliatum	↓	FACW	11		
4			12		
5			13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW or FAC
(excluding FAC-). 100

Remarks:

HYDROLOGY

✓ Recorded Data (Describe in Remarks):
- ✓ Stream, Lake, or Tide Gauge
- ___ Aerial Photographs
- ___ Other

___ No Recorded Data Available

Field Observation:

Depth of Surface Water: > 6 (in.)
Depth to Free Water in Pit: ______ (in.)
Depth to Saturated Soil: ______ (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ✓ Inundated
- ___ Saturated in Upper 12 inches
- ___ Water Marks
- ___ Drift Lines
- ___ Sediment Deposits
- ___ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ___ Oxidized Root Channels in Upper 12 in.
- ___ Water-Stained Leaves
- ___ Local Soil Survey Data
- ___ FAC-Neutral Test
- ___ Other (Explain in Remarks)

Remarks: Bank rises steeply to next bench. Bank soils are scoured, bare
(at upper edge) IS below OHW

SOILS

Map Unit Name
(Series and Phase) Cropley clay loam 0-2% slopes

Drainage Class: ____

Field Observations Confirm Mapped Type?
Yes [✓ No]

Taxonomy (Subgroup) ____

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.

Hydric Soil Indicators:

____ Histosol
____ Histic Epipedon
____ Sulfidic Odor
✓ Aquic Moisture Regime
____ Reducing Conditions
____ Gleyed or Low-Chrome colors

____ Concretions
____ High Organic Content in Surface Layer in Sandy Soils
____ Organic Streaking in Sandy Soils
____ Listed on Local Hydric Soils List
____ Listed on National Hydric Soils List
____ Other (Explain in Remarks)

Remarks: Soils inundated

WETLAND DETERMINATION

(Circle)
Hydrophytic Vegetation Present? [✓ Yes] No
Wetland Hydrology Present? [✓ Yes] No
Hydric Soils Present? [✓ Yes] No

Is this Sampling Point Within a Wetland? (Circle) [✓ Yes] No

Remarks:

✓

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID: A-8A

Project/Site: Upper Guadalupe River Flood Control Project
Applicant/Owner: Santa Clara Valley Water District
Investigator: Gale Rankin

Date: 7/29/95
County: Santa Clara
State: California

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation?) Yes [✓ No]
Is the area a potential Problem Area? Yes [✓ No]
(If needed, explain on reverse.)

Community ID: Ruderal

VEGETATION

	Plant Species (*Indicates dominants)	Stratum	Indicator	Plant Species	Stratum	Indicator
*	1 Piptatherum miliaceum	HERB	UPL	9		
*	2 Conium maculatum	↓	FACW	10		
X	3 Avena fatua	↓	UPL	11		
	4 Lepidium latifolium	↓	FACW	12		
	5 Carduus pycnocephalus	↓	UPL	13		
	6			14		
	7			15		
	8			16		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 33%

Remarks:

HYDROLOGY

_______ Recorded Data (Describe in Remarks):
_________ Stream, Lake, or Tide Gauge
_________ Aerial Photographs
_________ Other
_______ No Recorded Data Available

Field Observation:

Depth of Surface Water: ____________(in.)

Depth to Free Water in Pit: ____________(in.)

Depth to Saturated Soil: ____________(in.)

Wetland Hydrology Indicators:

Primary Indicators:
_________ Inundated
_________ Saturated in Upper 12 inches
_________ Water Marks
_________ Drift Lines
_________ Sediment Deposits
_________ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
_________ Oxidized Root Channels in Upper 12 in.
_________ Water-Stained Leaves
_________ Local Soil Survey Data
_________ FAC-Neutral Test
_________ Other (Explain in Remarks)

Remarks: Located on steep slope above channel bed, lower portion of bank eroded. Presume all is above OHW.

SOILS

Map Unit Name
(Series and Phase) Cropley clay loam 0-2% loam

Drainage Class: ______

Field Observations Confirm Mapped Type? Yes [✓ No]

Taxonomy (Subgroup) ______

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
5"		10 YR 3/2	2.5 YR 5/8	small-med sized moderately abundant	very hard, conglomerated

Hydric Soil Indicators:

	Histosol		Concretions
	Histic Epipedon		High Organic Content in Surface Layer in Sandy Soils
	Sulfidic Odor		Organic Streaking in Sandy Soils
	Aquic Moisture Regime		Listed on Local Hydric Soils List
	Reducing Conditions		Listed on National Hydric Soils List
✓	Gleyed or Low-Chrome colors		Other (Explain in Remarks)

Remarks: soil very hard to dig - got sample from lower edge of slope. Hydric indicators possibly due to historical conditions.

WETLAND DETERMINATION

(Circle)

Hydrophytic Vegetation Present? Yes [✓ No]
Wetland Hydrology Present? Yes [✓ No]
Hydric Soils Present? [✓ Yes] No

(Circle)
Is this Sampling Point Within a Wetland? Yes [✓ No]

Remarks: Currently the site has upland vegetation and hydrology.

✓

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID: A-8 B

Project/Site: Upper Guadalupe River Flood Control Project
Applicant/Owner: Santa Clara Valley Water District
Investigator: Gale Rankin

Date: 7/28/95
County: Santa Clara
State: California

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation?) [✓ Yes] No
Is the area a potential Problem Area? Yes [✓ No]
(If needed, explain on reverse.)

Community ID: Seasonal wetland

VEGETATION

Plant Species (*Indicates dominants)	Stratum	Indicator	Plant Species	Stratum	Indicator
* 1 Echinochloa crus-galli	HERB	FACW	9 Brassica rapa	HERB	UPL
2 Xanthium strumarium		FAC	10 Kickxia spuria		UPL
* 3 Lepidium latifolium		FACW	11 Solanum americanum		FAC
* 4 Polygonum lapathifolium		OBL	12 Polypogon monspeliensis		FACW+
5 Polygonum hydropiperoides		OBL	13 Spurge ?		
6 Epilobium ciliatum		FACW	14 Xanthium strumarium		FAC
7 Cyperus eragrostis		FACW	15 Foeniculum vulgare	↓	FACU
* 8 Melilotus alba	↓	FACU+	16		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 75

Remarks: Cover relatively sparse

HYDROLOGY

✓ Recorded Data (Describe in Remarks):
✓ Stream, Lake, or Tide Gauge
___ Aerial Photographs
___ Other
___ No Recorded Data Available

Field Observation:

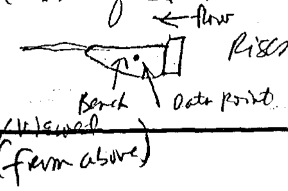
Depth of Surface Water: ______ (in.)
Depth to Free Water in Pit: ______ (in.)
Depth to Saturated Soil: ______ (in.)

Wetland Hydrology Indicators:

Primary Indicators: Algal mats
___ Inundated
___ Saturated in Upper 12 inches
___ Water Marks
___ Drift Lines
✓ Sediment Deposits
✓ Drainage Patterns in Wetlands
✓ Cracked mud on flat low bench

Secondary Indicators (2 or more required):
___ Oxidized Root Channels in Upper 12 in.
___ Water-Stained Leaves
___ Local Soil Survey Data
___ FAC-Neutral Test
___ Other (Explain in Remarks)

Remarks: Located just D.S. of concrete-lined outfall, resulting in scoured bench uncharacteristic of adjacent area



Rises steeply to TOB at upper edge

SOILS

Map Unit Name
(Series and Phase) Cropley clay loam 0-2% loam

Drainage Class:

Field Observations Confirm Mapped Type? Yes [✓ No]

Taxonomy (Subgroup)

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
10"		2.5YR 3/2	2.5YR 4/8	small spot & seams, abundant.	Clay

Hydric Soil Indicators:

- Histosol
- Histic Epipedon
- Sulfidic Odor
- ✓ Aquic Moisture Regime
- Reducing Conditions
- ✓ Gleyed or Low-Chrome colors
- Concretions
- High Organic Content in Surface Layer in Sandy Soils
- Organic Streaking in Sandy Soils
- Listed on Local Hydric Soils List
- Listed on National Hydric Soils List
- Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

(Circle)

Hydrophytic Vegetation Present? [✓ Yes] No
Wetland Hydrology Present? [✓ Yes] No
Hydric Soils Present? [✓ Yes] No

(Circle)

Is this Sampling Point Within a Wetland? [✓ Yes] No

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID: A-9A

Project/Site: Upper Guadalupe River Flood Control Project
Applicant/Owner: Santa Clara Valley Water District
Investigator: Gale Rankin

Date: 7/28/95
County: Santa Clara
State: California

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation?) Yes [✓ No]
Is the area a potential Problem Area? Yes [✓ No]
(If needed, explain on reverse.)

Community ID: Ruderal

VEGETATION

Plant Species (*Indicates dominants)	Stratum	Indicator	Plant Species	Stratum	Indicator
1 Piptatherum miliaceum	HERB	UPL	9		
2 Lepidium latifolium	↓	FACW	10		
3 Conium maculatum	↓	FACW	11		
4 Baccharis pilularis	S/S	UPL	12		
5			13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-).

Remarks:

HYDROLOGY

____ Recorded Data (Describe in Remarks):
- ____ Stream, Lake, or Tide Gauge
- ____ Aerial Photographs
- ____ Other

____ No Recorded Data Available

Field Observation:

Depth of Surface Water: ____ (in.)

Depth to Free Water in Pit: ____ (in.)

Depth to Saturated Soil: ____ (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ____ Inundated
- ____ Saturated in Upper 12 inches
- ____ Water Marks
- ____ Drift Lines
- ____ Sediment Deposits
- ____ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ____ Oxidized Root Channels in Upper 12 in.
- ____ Water-Stained Leaves
- ____ Local Soil Survey Data
- ____ FAC-Neutral Test
- ____ Other (Explain in Remarks)

Remarks: located on sloping bank above bench & channel bottom

SOILS

Map Unit Name
(Series and Phase) Cropley Clay loam 0-2% slopes

Drainage Class: ____

Field Observations Confirm Mapped Type?
Yes [✓ No]

Taxonomy (Subgroup) ____

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.

Hydric Soil Indicators:

____ Histosol
____ Histic Epipedon
____ Sulfidic Odor
____ Aquic Moisture Regime
____ Reducing Conditions
____ Gleyed or Low-Chrome colors
____ Concretions
____ High Organic Content in Surface Layer in Sandy Soils
____ Organic Streaking in Sandy Soils
____ Listed on Local Hydric Soils List
____ Listed on National Hydric Soils List
____ Other (Explain in Remarks)

Remarks: not tested

WETLAND DETERMINATION

(Circle)
Hydrophytic Vegetation Present? Yes [✓ No]
Wetland Hydrology Present? Yes [✓ No]
Hydric Soils Present? Yes No

Is this Sampling Point Within a Wetland? (Circle) Yes [✓ No]

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID: A-9B

Project/Site: Upper Guadalupe River Flood Control Project
Applicant/Owner: Santa Clara Valley Water District
Investigator: Gale Rankin

Date: 7/28/95
County: Santa Clara
State: California

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation?) Yes [✓ No]
Is the area a potential Problem Area? [✓ Yes] No
(If needed, explain on reverse.)

Community ID:

VEGETATION

	Plant Species (*Indicates dominants)	Stratum	Indicator	Plant Species	Stratum	Indicator
*	1 Xanthium strumarium	HERB	FAC	9 Rumex crispus	HERB	FACW
*	2 Melilotus albus	↓	FACU+	10 Picris echioides	↓	FAC
*	3 Lepidium latifolium	↓	FACW	11 Lolium multiflorum	↓	FAC
	4 Brassica rapa	↓	UPL	12		
	5 Echinochloa crus-galli	↓	FACW	13		
	6 Malva sp.	↓	UPL	14		
	7 Foeniculum vulgare	↓	FACU	15		
	8 Helianthemum	↓		16		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 66

Remarks: The lower "drop off" described below is dominated by more strongly hydrophytic species including Sparganium, Typha and Polygonum. Above the drop off the species on the above list come in. Vegetation throughout extremely dense

HYDROLOGY

Wetland Hydrology Indicators:

_____ Recorded Data (Describe in Remarks):
_____ Stream, Lake, or Tide Gauge
_____ Aerial Photographs
_____ Other
_____ No Recorded Data Available

Field Observation:

Depth of Surface Water: _____(in.)
Depth to Free Water in Pit: _____(in.)
Depth to Saturated Soil: _____(in.)

Primary Indicators:
_____ Inundated
_____ Saturated in Upper 12 inches
_____ Water Marks
_____ Drift Lines
_____ Sediment Deposits
_____ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
_____ Oxidized Root Channels in Upper 12 in.
_____ Water-Stained Leaves
_____ Local Soil Survey Data
_____ FAC-Neutral Test
_____ Other (Explain in Remarks)

Remarks: The extent of OHW not clear here. Relatively steep drop-off next to channel probably marks limit. Bench then rises to banks. Bench has uneven topography. Large cottonwood in bench middle is scoured around base to just below the level of the bench.

SOILS

Map Unit Name
(Series and Phase) Cropley Clay loam 0-2% slopes

Drainage Class:

Field Observations Confirm Mapped Type? Yes [✓ No]

Taxonomy (Subgroup)

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
6"		10YR 3/2	7.5YR 5/8	somewhat faint, small	SANDY

Hydric Soil Indicators:

	Histosol		Concretions
	Histic Epipedon		High Organic Content in Surface Layer in Sandy Soils
	Sulfidic Odor		Organic Streaking in Sandy Soils
	Aquic Moisture Regime		Listed on Local Hydric Soils List
	Reducing Conditions		Listed on National Hydric Soils List
✓	Gleyed or Low-Chrome colors		Other (Explain in Remarks)

Remarks: Hit hard surface at 6" in several locations
Darker areas within sand "clods": about 10YR 2/2 - Perhaps organic material

WETLAND DETERMINATION

	(Circle)
Hydrophytic Vegetation Present?	[✓ Yes] No
Wetland Hydrology Present?	[✓ Yes] No
Hydric Soils Present?	[✓ Yes] No

Is this Sampling Point Within a Wetland? (Circle) [✓ Yes] No

Remarks: ~~Presume~~ area to be a ~~high flow bench, irregularly inundated. Vegetation resulting from above average rainfall~~. Development of soil features in this previously disturbed site may indicate presence of adequate hydrology

✓

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID. A-10A

Project/Site: Upper Guadalupe River Flood Control Project
Applicant/Owner: Santa Clara Valley Water District
Investigator: Gale Rankin

Date: 7/27/95
County: Santa Clara
State: California

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation?) Yes No
Is the area a potential Problem Area? Yes No
(If needed, explain on reverse.)

Community ID: Concrete bank

VEGETATION

Plant Species (*Indicates dominants)	Stratum	Indicator	Plant Species	Stratum	Indicator
1			9		
2			10		
3			11		
4			12		
5			13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 0

Remarks: not vegetated

HYDROLOGY

_______ Recorded Data (Describe in Remarks):
- _________ Stream, Lake, or Tide Gauge
- _________ Aerial Photographs
- _________ Other

_______ No Recorded Data Available

Field Observation:

Depth of Surface Water: ____________(in.)

Depth to Free Water in Pit: ____________(in.)

Depth to Saturated Soil: ____________(in.)

Wetland Hydrology Indicators:

Primary Indicators:
- _________ Inundated
- _________ Saturated in Upper 12 inches
- _________ Water Marks
- _________ Drift Lines
- _________ Sediment Deposits
- _________ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- _________ Oxidized Root Channels in Upper 12 in.
- _________ Water-Stained Leaves
- _________ Local Soil Survey Data
- _________ FAC-Neutral Test
- _________ Other (Explain in Remarks)

Remarks: located on steep, concrete covered bank

SOILS

Map Unit Name
(Series and Phase)______________________________
Drainage Class:______________________________
Field Observations Confirm Mapped Type?
Yes [✓ No]
Taxonomy (Subgroup)______________________________

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.

Hydric Soil Indicators:

________ Histosol
________ Histic Epipedon
________ Sulfidic Odor
________ Aquic Moisture Regime
________ Reducing Conditions
________ Gleyed or Low-Chrome colors
________ Concretions
________ High Organic Content in Surface Layer in Sandy Soils
________ Organic Streaking in Sandy Soils
________ Listed on Local Hydric Soils List
________ Listed on National Hydric Soils List
________ Other (Explain in Remarks)

Remarks: Soils overlain by concrete

WETLAND DETERMINATION

(Circle)
Hydrophytic Vegetation Present? Yes [✓ No]
Wetland Hydrology Present? Yes [✓ No]
Hydric Soils Present? Yes [✓ No]

(Circle)
Is this Sampling Point Within a Wetland? Yes [✓ No]

Remarks: Concrete bank

✓

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID

A-10B

Project/Site: Upper Guadalupe River Flood Control Project	Date: 7/27/95
Applicant/Owner: Santa Clara Valley Water District	County: Santa Clara
Investigator: Gale Rankin	State: California

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation?) Yes [✓ No]
Is the area a potential Problem Area? [✓ Yes] No
(If needed, explain on reverse.)

Community ID: Seasonal wetland

VEGETATION

Plant Species (*Indicates dominants)	Stratum	Indicator	Plant Species	Stratum	Indicator
* 1 Echinochloa crus-galli	HERB	FACW	9		
2 Picris echioides		FAC	10		
* 3 Xanthium strumarium		FAC	11		
4 Raphanus sativus		UPL	12		
5 Cyperus eragrostis		FACW	13		
6 Polypogon monspeliensis		FACW+	14		
* 7 Melilotus albus		FACU+	15		
8 Epilobium ciliatum		FACW	16		

Percent of Dominant Species that are OBL, FACW or FAC
(excluding FAC-). 66

Remarks:

HYDROLOGY

✓ Recorded Data (Describe in Remarks):
- ✓ Stream, Lake, or Tide Gauge
- ____ Aerial Photographs
- ____ Other

____ No Recorded Data Available

Field Observation:

Depth of Surface Water: ________(in.)

Depth to Free Water in Pit: ________(in.)

Depth to Saturated Soil: ________(in.)

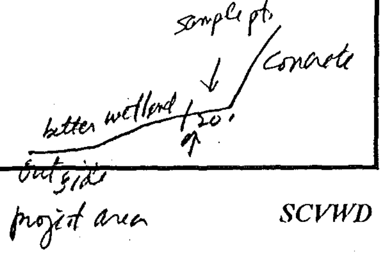
Wetland Hydrology Indicators:

Primary Indicators:
- ____ Inundated
- ____ Saturated in Upper 12 inches
- ____ Water Marks
- ____ Drift Lines
- ____ Sediment Deposits
- ____ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ____ Oxidized Root Channels in Upper 12 in.
- ____ Water-Stained Leaves
- ____ Local Soil Survey Data
- ____ FAC-Neutral Test
- ____ Other (Explain in Remarks)

Remarks:

area at toe of slope, upper fringe of OHW area
Slightly upper bench, but appears to be within OHW, iffy
Is just D.S. of 101 bridge



SCVWD

SOILS

Map Unit Name
(Series and Phase) Copley Clay loam 0-2% Slopes

Drainage Class:

Field Observations Confirm Mapped Type?
Yes [✓ No]

Taxonomy (Subgroup)

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
					Sandy

Hydric Soil Indicators:

- ____ Histosol
- ____ Histic Epipedon
- ____ Sulfidic Odor
- ____ Aquic Moisture Regime
- ____ Reducing Conditions
- ____ Gleyed or Low-Chrome colors
- ____ Concretions
- ____ High Organic Content in Surface Layer in Sandy Soils
- ____ Organic Streaking in Sandy Soils
- ____ Listed on Local Hydric Soils List
- ____ Listed on National Hydric Soils List
- ____ Other (Explain in Remarks)

Remarks:
Could not obtain color, too Sandy

WETLAND DETERMINATION

(Circle)

Hydrophytic Vegetation Present? [✓ Yes] No
Wetland Hydrology Present? [✓ Yes] No
Hydric Soils Present? [✓ Yes] No

(Circle)
Is this Sampling Point Within a Wetland? [✓ Yes] No

Remarks: Unclear situation, base determination primarily on vegetation

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID
6-1A

Project/Site: Upper Guadalupe River Flood Control Project
Applicant/Owner: Santa Clara Valley Water District
Investigator: Gale Rankin

Date: 7/7/96
County: Santa Clara
State: California

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation?) Yes [✓ No]
Is the area a potential Problem Area? Yes [✓ No]
(If needed, explain on reverse.)

Community ID:
Riparian woodland/forest

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
* 1 Populus fremontii	Trees/S	FACW	9		
2 Arundo donax	↓	FACW	10		
3 Schinus molle	↓	UPL	11		
4 Piptatherum milliaceum	↓	UPL	12		
5			13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW or FAC
(excluding FAC-). 100

Remarks:

HYDROLOGY

✓ Recorded Data (Describe in Remarks):
- ___ Stream, Lake, or Tide Gauge
- ___ Aerial Photographs
- ___ Other.

___ No Recorded Data Available

Field Observation:

Depth of Surface Water: ______(in.)

Depth to Free Water in Pit: ______(in.)

Depth to Saturated Soil: ______(in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ___ Inundated
- ___ Saturated in Upper 12 inches
- ___ Water Marks
- ___ Drift Lines
- ___ Sediment Deposits
- ___ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ___ Oxidized Root Channels in Upper 12 in.
- ___ Water-Stained Leaves
- ___ Local Soil Survey Data
- ___ FAC-Neutral Test
- ___ Other (Explain in Remarks)

Remarks: Located on bank slope above OHW. No field indicators of wetland hydrology observed.

SOILS

Map Unit Name (Series and Phase) Campbell silty clay loam

Drainage Class: ______

Field Observations Confirm Mapped Type? Yes [✓ No]

Taxonomy (Subgroup) ______

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
10"		7.5YR 3/2	5YR 5/8	Abundant	sandy clay (a little sand [illegible])

Hydric Soil Indicators:

- ______ Histosol
- ______ Histic Epipedon
- ______ Sulfidic Odor
- ______ Aquic Moisture Regime
- ______ Reducing Conditions
- ✓ Gleyed or Low-Chrome colors
- ______ Concretions
- ______ High Organic Content in Surface Layer in Sandy Soils
- ______ Organic Streaking in Sandy Soils
- ______ Listed on Local Hydric Soils List
- ______ Listed on National Hydric Soils List
- ______ Other (Explain in Remarks)

Remarks: Even soils from high on bank exhibit these characteristics, although mottles become smaller as get towards TOB

WETLAND DETERMINATION

(Circle)

Hydrophytic Vegetation Present? [✓ Yes] No
Wetland Hydrology Present? Yes [✓ No]
Hydric Soils Present? [✓ Yes] No

(Circle)

Is this Sampling Point Within a Wetland? Yes [✓ No]

Remarks: Vegetation hydrophytic according to ratings, but are phreatophytes, not dependent on surface moisture conditions. The prevalence of rooted, mature woody vegetation indicates that this area is above OHW, although high flow scour lines are present in some locations

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID: G-1 B

Project/Site: Upper Guadalupe River Flood Control Project
Applicant/Owner: Santa Clara Valley Water District
Investigator: Gale Rankin

Date: 7/7/96
County: Santa Clara
State: California

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation?) Yes [✓ No]
Is the area a potential Problem Area? Yes [✓ No]
(If needed, explain on reverse.)

Community ID: Seasonal/Emergent Wetland

VEGETATION

Plant Species (*Indicates dominants)	Stratum	Indicator	Plant Species	Stratum	Indicator
1 Veronica anagallis-aquatica	HERB	OBL	9 Melilotus indicus	HERB	FAC
* 2 Paspalum dilatatum	HERB	FAC	10 Populus fremontii	S/S	FACW
3 Salix laevigata	S/S	UPL	11 Picris echioides	HERB	FAC
4 Poa annua	HERB	FAC	12 Cyperus eragrostis	↓	FACW
5 Xanthium strumarium	↓	FAC	13 Rumex crispus		FACW
* 6 Sparganium eurycarpum		OBL	14 Lactuca serriola		FAC
7 Ludwigia peploides		OBL	15 Rorippa nasturtium-aquaticum		OBL
8 Cynodon dactylon		FAC	16		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100

Remarks:

HYDROLOGY

✓ Recorded Data (Describe in Remarks):
- ✓ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ✓ Other

☐ No Recorded Data Available

Field Observation:

Depth of Surface Water: ______(in.)

Depth to Free Water in Pit: ______(in.)

Depth to Saturated Soil: ______(in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ✓ Inundated - lowest portions only
- ☐ Saturated in Upper 12 inches
- ☐ Water Marks
- ✓ Drift Lines
- ✓ Sediment Deposits
- ✓ Drainage Patterns in Wetlands
- ✓ algal mats in lowest areas

Secondary Indicators (2 or more required):
- ☐ Oxidized Root Channels in Upper 12 in.
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks: Area is a gravel/sand bar located adjacent to low-flow channel. Grades gently up to disturbed rocky slope where larger trees are growing

SOILS

Map Unit Name (Series and Phase) Campbell silty clay loam

Drainage Class: ____

Field Observations Confirm Mapped Type? Yes [✓ No]

Taxonomy (Subgroup) ____

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-10"		←	10YR 2/2	none	sandy loam

Hydric Soil Indicators:

____ Histosol
____ Histic Epipedon
____ Sulfidic Odor
✓ Aquic Moisture Regime
____ Reducing Conditions
____ Gleyed or Low-Chrome colors

____ Concretions
____ High Organic Content in Surface Layer in Sandy Soils
____ Organic Streaking in Sandy Soils
____ Listed on Local Hydric Soils List
____ Listed on National Hydric Soils List
____ Other (Explain in Remarks)

Remarks: Lowest portions inundated during dry season. Upper portion below OHW mark.

WETLAND DETERMINATION

(Circle)

Hydrophytic Vegetation Present? [✓ Yes] No
Wetland Hydrology Present? [✓ Yes] No
Hydric Soils Present? [✓ Yes] No

Is this Sampling Point Within a Wetland? (Circle) [✓ Yes] No

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID: 6-2A

Project/Site: Upper Guadalupe River Flood Control Project
Applicant/Owner: Santa Clara Valley Water District
Investigator: Gale Rankin

Date: 7/6/95
County: Santa Clara
State: California

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation?) Yes [✓ No]
Is the area a potential Problem Area? Yes [✓ No]
(If needed, explain on reverse.)

Community ID: Urban forest (riparian)

VEGETATION

Plant Species (*Indicates dominants)	Stratum	Indicator	Plant Species	Stratum	Indicator
1 Eucalyptus globulus	Tree	UPL	9		
2 Unk shrub	S/S		10		
3 Piptatherum miliaceum	HERB	UPL	11		
4			12		
5			13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 0

Remarks:

HYDROLOGY

✓ Recorded Data (Describe in Remarks):
____ Stream, Lake, or Tide Gauge
____ Aerial Photographs
____ Other
____ No Recorded Data Available

Field Observation:

Depth of Surface Water: ____ (in.)
Depth to Free Water in Pit: ____ (in.)
Depth to Saturated Soil: ____ (in.)

Wetland Hydrology Indicators:

Primary Indicators:
____ Inundated
____ Saturated in Upper 12 inches
____ Water Marks
____ Drift Lines
____ Sediment Deposits
____ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
____ Oxidized Root Channels in Upper 12 in.
____ Water-Stained Leaves
____ Local Soil Survey Data
____ FAC-Neutral Test
____ Other (Explain in Remarks)

Remarks: No field evidence. Some scouring due probably to high flows but located on sloping bank above OHW mark defined by lower scour marks and vegetation change

SOILS

Map Unit Name
(Series and Phase) Garretson fine sandy loam, 0-2%

Drainage Class:

Field Observations Confirm Mapped Type? Yes [✓ No]

Taxonomy (Subgroup)

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
		10YR 3/1	5YR 5/8	Faint, small, moderate abundance	

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☑ Gleyed or Low-Chrome colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:
see Pt. 1B

Soils from ~3' higher on bank, just below TOB 10YR 3/2 w/faint mottling

WETLAND DETERMINATION

(Circle)
Hydrophytic Vegetation Present? Yes [✓ No]
Wetland Hydrology Present? Yes [✓ No]
Hydric Soils Present? [✓ Yes] No

Is this Sampling Point Within a Wetland? (Circle) Yes [✓ No]

Remarks:

(1987 COE Wetlands Delineation Manual)

6-2-B

Project/Site: Upper Guadalupe River Flood Control Project Applicant/Owner: Santa Clara Valley Water District Investigator: Gale Rankin	Date: 7/6/95 County: Santa Clara State: California
Do Normal Circumstances exist on the site? [✓ Yes] No Is the site significantly disturbed (Atypical Situation?) Yes [✓ No] Is the area a potential Problem Area? Yes [✓ No] (If needed, explain on reverse.)	Community ID: Wetland - Seasonal & Emergent

VEGETATION

Plant Species (*Indicates dominants)	Stratum	Indicator	Plant Species	Stratum	Indicator
X 1 Sparganium eurycarpum	HERB	OBL	9 Poa annua	HERB	FAC
2 Raphanus sativus	↓	UPL	10 Plantago major	↓	FACW
3 Veronica anagallis-aquatica	↓	OBL	11 Polypogon monspeliensis	↓	FACW+
4 Xanthium strumarium	↓	FAC	12 Lolium multiflorum	↓	FAC
5 Epilobium ciliatum var ciliatum	↓	FACW	X 13 Paspalum dilatatum	↓	FAC
6 Arundo donax	S/S	FAW	14 Ludwigia peploides	↓	OBL
7 Salix laevigata	S/S	UPL	15 Cyperus eragrostis	↓	FACW
8 Rorippa nasturtium-aquaticum	HERB	OBL	16		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 66

Remarks:

HYDROLOGY

✓ Recorded Data (Describe in Remarks):
- ✓ Stream, Lake, or Tide Gauge
- ___ Aerial Photographs
- ✓ Other

___ No Recorded Data Available

Field Observation:

Depth of Surface Water: ________(in.)

Depth to Free Water in Pit: ________(in.)

Depth to Saturated Soil: ________(in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ✓ Inundated (lower limit only)
- ___ Saturated in Upper 12 inches
- ___ Water Marks
- ✓ Drift Lines
- ✓ Sediment Deposits
- ✓ Drainage Patterns in Wetlands
- ✓ algal mats

Secondary Indicators (2 or more required):
- ___ Oxidized Root Channels in Upper 12 in.
- ___ Water-Stained Leaves
- ___ Local Soil Survey Data
- ___ FAC-Neutral Test
- ___ Other (Explain in Remarks)

Remarks: Area is just above low flow channel, on gently sloping bench in channel bed.

Taxonomy (Subgroup)________________ Field Observations Confirm Mapped Type? Yes [✓ No]

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
10"		7.5YR 3/2	5YR 5/8	High / large	Clay with some sandy

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☑ Gleyed or Low-Chrome colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks: this sample from about 3 vertical feet above wetland & OHW level.
A sample from 4' upslope - same color matrix, mottles present but much smaller
& less abundant; but still very evident

WETLAND DETERMINATION

(Circle)

Hydrophytic Vegetation Present? Yes [✓ No]
Wetland Hydrology Present? Yes [✓ No]
Hydric Soils Present? [✓ Yes] No

(Circle)

Is this Sampling Point Within a Wetland? Yes [✓ No]

Remarks: Soils features may be from historic conditions

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID: 6-3A

Project/Site: Upper Guadalupe River Flood Control Project	Date: 7/6/95
Applicant/Owner: Santa Clara Valley Water District	County: Santa Clara
Investigator: Gale Rankin	State: California

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation?) Yes [✓ No]
Is the area a potential Problem Area? Yes [✓ No]
(If needed, explain on reverse.)

Community ID: Ruderal

VEGETATION

	Plant Species (*Indicates dominants)	Stratum	Indicator		Plant Species	Stratum	Indicator
* 1	Piptatherum milliceum	Herb	UPL	9			
2	Hedera helix	↓	UPL	10			
3	Foeniculum vulgare	↓	FACU	11			
4	Ailanthus altissima	S/S	UPL	12			
5	Chenopodium album	HERB	FAC	13			
6	Xanthium strumarium	HERB	FAC	14			
7				15			
8				16			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 33

Remarks:

HYDROLOGY

✓ Recorded Data (Describe in Remarks):
☐ Stream, Lake, or Tide Gauge
☐ Aerial Photographs
☐ Other
☐ No Recorded Data Available

Field Observation:

Depth of Surface Water: ______(in.)

Depth to Free Water in Pit: ______(in.)

Depth to Saturated Soil: ______(in.)

Wetland Hydrology Indicators:

Primary Indicators:
☐ Inundated
☐ Saturated in Upper 12 inches
☐ Water Marks
☐ Drift Lines
☐ Sediment Deposits
☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
☐ Oxidized Root Channels in Upper 12 in.
☐ Water-Stained Leaves
☐ Local Soil Survey Data
☐ FAC-Neutral Test
☐ Other (Explain in Remarks)

Remarks:
On steep eroded slope. No indicators seen. Erosion presumed due to high flows only. Site is just downstream of Rte 87/Hwy 280 flyway

SOILS

Map Unit Name
(Series and Phase) Garretson fine sandy loam 0-2%

Drainage Class: ____

Field Observations Confirm Mapped Type? Yes [✓ No]

Taxonomy (Subgroup) ____

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
10"		7.5YR 3/2	5YR 5/8	High / large	Clay with some sandy

Hydric Soil Indicators:

____ Histosol
____ Histic Epipedon
____ Sulfidic Odor
____ Aquic Moisture Regime
____ Reducing Conditions
✓ Gleyed or Low-Chrome colors
____ Concretions
____ High Organic Content in Surface Layer in Sandy Soils
____ Organic Streaking in Sandy Soils
____ Listed on Local Hydric Soils List
____ Listed on National Hydric Soils List
____ Other (Explain in Remarks)

Remarks: this sample from about 3 vertical feet above wetland & OHW level.
A sample from 4' upslope - same color matrix, mottles present but much smaller & less abundant; but still very evident

WETLAND DETERMINATION

(Circle)
Hydrophytic Vegetation Present? Yes [✓ No]
Wetland Hydrology Present? Yes [✓ No]
Hydric Soils Present? [✓ Yes] No

(Circle)
Is this Sampling Point Within a Wetland? Yes [✓ No]

Remarks: Soils features may be from historic conditions

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID
6-3 B

Project/Site: Upper Guadalupe River Flood Control Project
Applicant/Owner: Santa Clara Valley Water District
Investigator: Gale Rankin

Date: 7/6/94
County: Santa Clara
State: California

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation?) Yes [✓ No]
Is the area a potential Problem Area? Yes [✓ No]
(If needed, explain on reverse.)

Community ID:
Seasonal Wetland

VEGETATION

Plant Species (*Indicates dominants)	Stratum	Indicator	Plant Species	Stratum	Indicator
1 Poa annua	HERB	FAC	9 Populus fremontii	S/S	FACW
2 Sparganium eurycarpum	↓	OBL	10 Polypogon monspeliensis	HERB	FACW
3 Veronica anagallis-aquatica		OBL	11		
4 Epilobium ciliatum var ciliatum		FACW	12		
5 Melilotus indicus		FAC	13		
6 Paspalum dilatatum		FAC	14		
7 Chenopodium album		FAC	15		
8 Rorippa nasturtium-aquaticum		OBL	16		

Percent of Dominant Species that are OBL, FACW or FAC
(excluding FAC-). 100

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

✓ Recorded Data (Describe in Remarks):
- ✓ Stream, Lake, or Tide Gauge
- ___ Aerial Photographs
- ✓ Other

___ No Recorded Data Available

Field Observation:

Depth of Surface Water: ______(in.)

Depth to Free Water in Pit: ______(in.)

Depth to Saturated Soil: ______(in.)

Primary Indicators:
- ___ Inundated
- ___ Saturated in Upper 12 inches
- ___ Water Marks
- ___ Drift Lines
- ✓ Sediment Deposits
- ✓ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ✓ Oxidized Root Channels in Upper 12 in. a few
- ___ Water-Stained Leaves
- ___ Local Soil Survey Data
- ___ FAC-Neutral Test
- ___ Other (Explain in Remarks)

Remarks: On level bench fringing wide, open water area, slope on upslope side grades steeply up.

SOILS

Map Unit Name (Series and Phase) Garretson fine sandy loam 0-2%

Drainage Class:

Field Observations Confirm Mapped Type? Yes [✓ No]

Taxonomy (Subgroup)

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-12"		10YR 3/2			Clay layer interspersed w/sand
		2.5N Streaks			streaks of very dark material
			5? 5/8	small, moderately abundant	from about 3" down

Hydric Soil Indicators:

☐ Histosol
☐ Histic Epipedon
☐ Sulfidic Odor
☑ Aquic Moisture Regime
☐ Reducing Conditions
☑ Gleyed or Low-Chrome colors
☐ Concretions
☐ High Organic Content in Surface Layer in Sandy Soils
☐ Organic Streaking in Sandy Soils
☐ Listed on Local Hydric Soils List
☐ Listed on National Hydric Soils List
☐ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

(Circle)

Hydrophytic Vegetation Present? [✓ Yes] No
Wetland Hydrology Present? [✓ Yes] No
Hydric Soils Present? [✓ Yes] No

(Circle)

Is this Sampling Point Within a Wetland? [✓ Yes] No

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID
7-1-A

Project/Site: Upper Guadalupe River Flood Control Project
Applicant/Owner: Santa Clara Valley Water District
Investigator: Gale Rankin

Date: 6/29/95
County: Santa Clara
State: California

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation?) [✓ Yes] No
Is the area a potential Problem Area? Yes [✓ No]
(If needed, explain on reverse.)

Community ID:
Ruderal

VEGETATION

Plant Species (*Indicates dominants)	Stratum	Indicator	Plant Species	Stratum	Indicator
1 Piptatherum miliaceum	HERB	FAC	9		
2 Xanthium strumarium	↓	FAC	10		
3 Raphanus sativus		UPL	11		
4 Cirsium vulgare		UPL	12		
5			13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 0

Remarks:

HYDROLOGY

✓ Recorded Data (Describe in Remarks):
____ Stream, Lake, or Tide Gauge
____ Aerial Photographs
____ Other
____ No Recorded Data Available

Field Observation:

Depth of Surface Water: ____ (in.)

Depth to Free Water in Pit: ____ (in.)

Depth to Saturated Soil: ____ (in.)

Wetland Hydrology Indicators:

Primary Indicators:
____ Inundated
____ Saturated in Upper 12 inches
____ Water Marks
____ Drift Lines
____ Sediment Deposits
____ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
____ Oxidized Root Channels in Upper 12 in.
____ Water-Stained Leaves
____ Local Soil Survey Data
____ FAC-Neutral Test
____ Other (Explain in Remarks)

Remarks:
ON BANK (STEEP) ABOVE CHANNEL BED c̄ CULVERTS

SOILS

Map Unit Name
(Series and Phase) SanYsiDro LoAm, 2-9% slopes, Eroded

Drainage Class: ______

Field Observations Confirm Mapped Type?
Yes [✓ No]

Taxonomy (Subgroup) ______

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture,Concretions, Structure, etc.
10"			10YR 3/2		SANDY LOAM

Hydric Soil Indicators:

______ Histosol
______ Histic Epipedon
______ Sulfidic Odor
______ Aquic Moisture Regime
______ Reducing Conditions
______ Gleyed or Low-Chrome colors

______ Concretions
______ High Organic Content in Surface Layer in Sandy Soils
______ Organic Streaking in Sandy Soils
______ Listed on Local Hydric Soils List
______ Listed on National Hydric Soils List
______ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

	(Circle)
Hydrophytic Vegetation Present?	Yes [✓ No]
Wetland Hydrology Present?	Yes [✓ No]
Hydric Soils Present?	Yes [✓ No]

(Circle)
Is this Sampling Point Within a Wetland? Yes [✓ No]

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID: 7-1 B

Project/Site: Upper Guadalupe River Flood Control Project	Date: 6/29/95
Applicant/Owner: Santa Clara Valley Water District	County: Santa Clara
Investigator: Gale Rankin	State: California

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation?) Yes [✓ No]
Is the area a potential Problem Area? Yes [✓ No]
(If needed, explain on reverse.)

Community ID: Seasonal wetland

VEGETATION

Plant Species (*Indicates dominants)	Stratum	Indicator	Plant Species	Stratum	Indicator
* 1 Xanthium strumarium	HERB	FAC	9 Cyperus eragrostis	HERB	FACW
2 Sparganium eurycarpum		OBL	X 10 Cynodon dactylon		FAC
3 Polygonum lapathifolium		OBL	11 Paspalum dilatatum		FAC
* 4 Typha sp		OBL	12 Ludwigia peploides	↓	OBL
5 Raphanus sativus		UPL	X 13 Salix lasiolepis	S/S	FACW
6 Rumex crispus		FAC	14 Foeniculum vulgare	HERB	FACU
7 Lolium multiflorum	↓	FAC	15 Lactuca serriola		FAC
* 8 Populus fremontii	S/S	FACW	16 Melilotus albus	↓	FACU+
			Rorippa nasturtium-aquaticum		OBL

Percent of Dominant Species that are OBL, FACW or FAC
(excluding FAC-): 100

Remarks:

HYDROLOGY

✓ Recorded Data (Describe in Remarks):
☐ Stream, Lake, or Tide Gauge
☐ Aerial Photographs
☐ Other
☐ No Recorded Data Available

Field Observation:

Depth of Surface Water: ______ (in.)
Depth to Free Water in Pit: ______ (in.)
Depth to Saturated Soil: ______ (in.)

Wetland Hydrology Indicators:

Primary Indicators:
☐ Inundated
☐ Saturated in Upper 12 inches
☐ Water Marks
☐ Drift Lines
✓ Sediment Deposits
✓ Drainage Patterns in Wetlands
✓ Algae-hanging in woody debris (rooted)

Secondary Indicators (2 or more required):
☐ Oxidized Root Channels in Upper 12 in.
☐ Water-Stained Leaves
☐ Local Soil Survey Data
☐ FAC-Neutral Test
☐ Other (Explain in Remarks)

Remarks: Area located just D.S. of alma St. bridge on gravel bar. In between low-flow channel & sac-crete bank. Low flow channel on either side of this bar.

SOILS

Map Unit Name
(Series and Phase) San Ysidro Loam, 2-9% slopes, eroded

Drainage Class:

Field Observations Confirm Mapped Type?
Yes [✓ No]

Taxonomy (Subgroup)

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
					Course cobbles & gravel

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ✓ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low-Chrome colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

(Circle)

Hydrophytic Vegetation Present? [✓ Yes] No
Wetland Hydrology Present? [✓ Yes] No
Hydric Soils Present? [✓ Yes] No

(Circle)

Is this Sampling Point Within a Wetland? [✓ Yes] No

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID: 7-2A

Project/Site: Upper Guadalupe River Flood Control Project Applicant/Owner: Santa Clara Valley Water District Investigator: Gale Rankin	Date: 7/6/96 County: Santa Clara State: California
Do Normal Circumstances exist on the site? [✓ Yes] No Is the site significantly disturbed (Atypical Situation?) Yes [✓ No] Is the area a potential Problem Area? Yes [✓ No] (If needed, explain on reverse.)	Community ID: Riparian forest (Understory)

VEGETATION

Plant Species (*Indicates dominants)	Stratum	Indicator	Plant Species	Stratum	Indicator
1 Artemesia douglasii	Herb	FACW	9		
2 Salix laevigata	Tree	UPL(?)	10		
* 3 Piptatherum miliaceum	Herb	UPL	11		
* 4 Populus fremontii	S/S	FACW	12		
* 5 Rubus ursinus	S/S	FACW	13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 66%

Remarks: These woody species not indicative of surface soil conditions

HYDROLOGY

✓ Recorded Data (Describe in Remarks):
- ✓ Stream, Lake, or Tide Gauge
- ____ Aerial Photographs
- ✓ Other

____ No Recorded Data Available

Field Observation:

Depth of Surface Water: ________(in.)

Depth to Free Water in Pit: ________(in.)

Depth to Saturated Soil: ________(in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ____ Inundated
- ____ Saturated in Upper 12 inches
- ____ Water Marks
- ____ Drift Lines
- ____ Sediment Deposits
- ____ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ____ Oxidized Root Channels in Upper 12 in.
- ____ Water-Stained Leaves
- ____ Local Soil Survey Data
- ____ FAC-Neutral Test
- ____ Other (Explain in Remarks)

Remarks:
Located on slope above shelving which indicates limits of OHW.
No indicators observed.

SOILS

Map Unit Name (Series and Phase) Campbell Silty Clay Loam

Drainage Class: ____________

Field Observations Confirm Mapped Type? Yes [✓ No]

Taxonomy (Subgroup) ____________

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
10'		10 YR 2/2	7.5 YR 5/8	very Rare but large (<1%)	Conglomerate of pebbles, sand, clay

Hydric Soil Indicators:

- ____ Histosol
- ____ Histic Epipedon
- ____ Sulfidic Odor
- ____ Aquic Moisture Regime
- ____ Reducing Conditions
- ____ Gleyed or Low-Chrome colors
- ____ Concretions
- ____ High Organic Content in Surface Layer in Sandy Soils
- ____ Organic Streaking in Sandy Soils
- ____ Listed on Local Hydric Soils List
- ____ Listed on National Hydric Soils List
- ____ Other (Explain in Remarks)

Remarks: Low chroma matrix, but not sufficient mottling to indicate hydric conditions.

WETLAND DETERMINATION

(Circle)

Hydrophytic Vegetation Present? [✓ Yes] No

Wetland Hydrology Present? Yes [✓ No]

Hydric Soils Present? Yes [✓ No]

(Circle)

Is this Sampling Point Within a Wetland? Yes [✓ No]

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID: 2-2B

Project/Site: Upper Guadalupe River Flood Control Project
Applicant/Owner: Santa Clara Valley Water District
Investigator: Gale Rankin

Date: 7/6/96
County: Santa Clara
State: California

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation?) Yes [✓ No]
Is the area a potential Problem Area? Yes [✓ No]
(If needed, explain on reverse.)

Community ID: Seasonal wetland

VEGETATION

Plant Species (*Indicates dominants)	Stratum	Indicator	Plant Species	Stratum	Indicator
* 1 Cyperus eragrostis	HERB	FACW	9		
2 Populus fremontii	S/S	FACW	10		
3 Rubus ursinus	S/S	FACW	11		
4 Cynodon dactylon	Herb	FAC	12		
5 Artemisia douglasii	HERB	FACW	13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100

Remarks:

HYDROLOGY

✓ Recorded Data (Describe in Remarks):
- ✓ Stream, Lake, or Tide Gauge
- ____ Aerial Photographs
- ✓ Other

____ No Recorded Data Available

Field Observation:

Depth of Surface Water: none (in.)
Depth to Free Water in Pit: ____ (in.)
Depth to Saturated Soil: ____ (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ____ Inundated
- ____ Saturated in Upper 12 inches
- ____ Water Marks
- ____ Drift Lines
- ✓ Sediment Deposits
- ✓ Drainage Patterns in Wetlands
- ✓ Algal mats

Secondary Indicators (2 or more required):
- ____ Oxidized Root Channels in Upper 12 in.
- ____ Water-Stained Leaves
- ____ Local Soil Survey Data
- ____ FAC-Neutral Test
- ____ Other (Explain in Remarks) matted vegetation cracked mud surface at upper level.

Remarks: Area located on bench, just above low flow channel and below shelf which marks limit of OHW

SOILS

Map Unit Name
(Series and Phase) Campbell silty clay loam

Drainage Class: ____

Field Observations Confirm Mapped Type?
Yes No

Taxonomy (Subgroup) ____

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-3"					Cobbles c̄ gravel
3-12"		10YR 4/1	10YR 5/8	diffuse/moderate abundance	Clayey with some sand
		10			

Hydric Soil Indicators:

	Histosol		Concretions
	Histic Epipedon		High Organic Content in Surface Layer in Sandy Soils
	Sulfidic Odor		Organic Streaking in Sandy Soils
✓	Aquic Moisture Regime		Listed on Local Hydric Soils List
	Reducing Conditions		Listed on National Hydric Soils List
✓	Gleyed or Low-Chrome colors		Other (Explain in Remarks)

Remarks: Situated below OHW. Soils grade from clayey to more sandy as go up-slope

WETLAND DETERMINATION

(Circle)

Hydrophytic Vegetation Present? [✓ Yes] No
Wetland Hydrology Present? [✓ Yes] No
Hydric Soils Present? [✓ Yes] No

(Circle)
Is this Sampling Point Within a Wetland? [✓ Yes] No

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID: 9-1-A

Project/Site: Upper Guadalupe River Flood Control Project
Applicant/Owner: Santa Clara Valley Water District
Investigator: Gale Rankin

Date: 6/29/95
County: Santa Clara
State: California

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation?) Yes [✓ No]
Is the area a potential Problem Area? Yes [✓ No]
(If needed, explain on reverse.)

Community ID: Ruderal/Bare Soil

VEGETATION

Plant Species (*Indicates dominants)	Stratum	Indicator	Plant Species	Stratum	Indicator
1 Juglans californica var. hindsii	S/S	FAC	9		
2 Piptatherum miliaceum	Herb	UPL	10		
3 Convolvulus arvensis	↓	UPL	11		
4 Raphanus sativus	↓	UPL	12		
5 Xanthium strumarium	↓	FAC	13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 0

Remarks: vegetation very sparse, no dominants

HYDROLOGY

✓ Recorded Data (Describe in Remarks):
- ____ Stream, Lake, or Tide Gauge
- ____ Aerial Photographs
- ____ Other

____ No Recorded Data Available

Field Observation:

Depth of Surface Water: ______(in.)

Depth to Free Water in Pit: ______(in.)

Depth to Saturated Soil: ______(in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ____ Inundated
- ____ Saturated in Upper 12 inches
- ____ Water Marks
- ____ Drift Lines
- ____ Sediment Deposits
- ____ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ____ Oxidized Root Channels in Upper 12 in.
- ____ Water-Stained Leaves
- ____ Local Soil Survey Data
- ____ FAC-Neutral Test
- ____ Other (Explain in Remarks)

Remarks: above OHW, no field indicators seen

SOILS

Map Unit Name
(Series and Phase) Yolo silty clay loam, 2-9% slopes

Drainage Class: ____

Field Observations Confirm Mapped Type? Yes [✓ No]

Taxonomy (Subgroup) ____

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.

Hydric Soil Indicators:

- ____ Histosol
- ____ Histic Epipedon
- ____ Sulfidic Odor
- ____ Aquic Moisture Regime
- ____ Reducing Conditions
- ____ Gleyed or Low-Chrome colors
- ____ Concretions
- ____ High Organic Content in Surface Layer in Sandy Soils
- ____ Organic Streaking in Sandy Soils
- ____ Listed on Local Hydric Soils List
- ____ Listed on National Hydric Soils List
- ____ Other (Explain in Remarks)

Remarks: Rip-rap & bare soil bank

WETLAND DETERMINATION

	(Circle)
Hydrophytic Vegetation Present?	Yes [✓ No]
Wetland Hydrology Present?	Yes [✓ No]
Hydric Soils Present?	Yes [✓ No]

Is this Sampling Point Within a Wetland? (Circle) Yes [✓ No]

Remarks: Areas just DS of concrete wing wall on Malone Rd. Bridge

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID: 9-1' B

Project/Site: Upper Guadalupe River Flood Control Project
Applicant/Owner: Santa Clara Valley Water District
Investigator: Gale Rankin

Date: 6/29/95
County: Santa Clara
State: California

Do Normal Circumstances exist on the site? Yes No
Is the site significantly disturbed (Atypical Situation?) [✓ Yes] No
Is the area a potential Problem Area? Yes No
(If needed, explain on reverse.)

Community ID: Seasonal wetland.

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
* 1	Ludwigia peploides	Herb	OBL	9			
2				10			
3				11			
4				12			
5				13			
6				14			
7				15			
8				16			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100

Remarks:

HYDROLOGY

✓ Recorded Data (Describe in Remarks):
- ___ Stream, Lake, or Tide Gauge
- ___ Aerial Photographs
- ___ Other.

___ No Recorded Data Available

Field Observation:

Depth of Surface Water: 6-12 (in.)
Depth to Free Water in Pit: ___ (in.)
Depth to Saturated Soil: ___ (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ✓ Inundated
- ___ Saturated in Upper 12 inches
- ___ Water Marks
- ___ Drift Lines
- ___ Sediment Deposits
- ___ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ___ Oxidized Root Channels in Upper 12 in.
- ___ Water-Stained Leaves
- ___ Local Soil Survey Data
- ___ FAC-Neutral Test
- ___ Other (Explain in Remarks)

Remarks:

SOILS

Map Unit Name
(Series and Phase) Yolo silty Clay Loam 2-9% slopes

Drainage Class:

Field Observations Confirm Mapped Type?
Yes [✓ No]

Taxonomy (Subgroup)

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.

Hydric Soil Indicators:

☐ Histosol
☐ Histic Epipedon
☐ Sulfidic Odor
✓ Aquic Moisture Regime
☐ Reducing Conditions
☐ Gleyed or Low-Chrome colors

☐ Concretions
☐ High Organic Content in Surface Layer in Sandy Soils
☐ Organic Streaking in Sandy Soils
☐ Listed on Local Hydric Soils List
☐ Listed on National Hydric Soils List
☐ Other (Explain in Remarks)

Remarks: Inundated

WETLAND DETERMINATION

(Circle)
Hydrophytic Vegetation Present? [✓ Yes] No
Wetland Hydrology Present? [✓ Yes] No
Hydric Soils Present? [✓ Yes] No

Is this Sampling Point Within a Wetland? (Circle) [✓ Yes] No

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID: 9-2A

Project/Site: Upper Guadalupe River Flood Control Project
Applicant/Owner: Santa Clara Valley Water District
Investigator: Gale Rankin

Date: 6/29/95
County: Santa Clara
State: California

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation?) Yes [✓ No]
Is the area a potential Problem Area? Yes [✓ No]
(If needed, explain on reverse.)

Community ID: Riparian forest (disturbed)

VEGETATION

Plant Species (*Indicates dominants)	Stratum	Indicator	Plant Species	Stratum	Indicator
* 1 Juglans californica var. hindsii	Tree	FAC	9		
2 Arundo donax.	HERB	FACW	10		
* 3 Piptatherum dilatatum	↓	FAC	11		
* 4 Xanthium strumarium	↓	FAC	12		
5 Populus fremontii	S/S	FACW	13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100

Remarks:

HYDROLOGY

✓ Recorded Data (Describe in Remarks):
____ Stream, Lake, or Tide Gauge
____ Aerial Photographs
____ Other
____ No Recorded Data Available

Field Observation:

Depth of Surface Water: ____ (in.)

Depth to Free Water in Pit: ____ (in.)

Depth to Saturated Soil: ____ (in.)

Wetland Hydrology Indicators:

Primary Indicators:
____ Inundated
____ Saturated in Upper 12 inches
____ Water Marks
____ Drift Lines
____ Sediment Deposits
____ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
____ Oxidized Root Channels in Upper 12 in.
____ Water-Stained Leaves
____ Local Soil Survey Data
____ FAC-Neutral Test
____ Other (Explain in Remarks)

Remarks: Located above OHW on steep bank. No hydrology indicators present

SOILS

Map Unit Name
(Series and Phase) Yolo Loam 0-2% slopes

Drainage Class: ____________________

Field Observations Confirm Mapped Type? Yes [✓ No]

Taxonomy (Subgroup) ____________________

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-10"			10YR 3/2		

Hydric Soil Indicators:

- ______ Histosol
- ______ Histic Epipedon
- ______ Sulfidic Odor
- ______ Aquic Moisture Regime
- ______ Reducing Conditions
- ______ Gleyed or Low-Chrome colors
- ______ Concretions
- ______ High Organic Content in Surface Layer in Sandy Soils
- ______ Organic Streaking in Sandy Soils
- ______ Listed on Local Hydric Soils List
- ______ Listed on National Hydric Soils List
- ______ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

(Circle)

Hydrophytic Vegetation Present? [✓ Yes] No
Wetland Hydrology Present? Yes [✓ No]
Hydric Soils Present? Yes [✓ No]

(Circle)

Is this Sampling Point Within a Wetland? Yes [✓ No]

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID: 9-2-B

Project/Site: Upper Guadalupe River Flood Control Project
Applicant/Owner: Santa Clara Valley Water District
Investigator: Gale Rankin

Date: 6/29/95
County: Santa Clara
State: California

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation?) Yes [✓ No]
Is the area a potential Problem Area? Yes [✓ No]
(If needed, explain on reverse.)

Community ID: Seasonal wetland

VEGETATION

Plant Species (*Indicates dominants)	Stratum	Indicator	Plant Species	Stratum	Indicator
* 1 Polygonum hydropiperoides	HERB	OBL	9 Xanthium strumarium	HERB	FAC
2 Lolium multiflorum	↓	FAC	10 Poa annua	HERB	FACW-
3 Veronica anagallis-aquatica	↓	OBL	11		
4 Populus fremontii	S/S	FACW	12		
5 Rumex crispus	HERB	FACW-	13		
6 Foeniculum vulgare	↓	FACU	14		
7 Brassica nigra	↓	UPL	15		
8 Polygonum arenastrum	↓	FAC	16		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-).

Remarks:

HYDROLOGY

✓ Recorded Data (Describe in Remarks):
- ___ Stream, Lake, or Tide Gauge
- ___ Aerial Photographs
- ___ Other

___ No Recorded Data Available

Field Observation:

Depth of Surface Water: ______(in.)

Depth to Free Water in Pit: ______(in.)

Depth to Saturated Soil: ______(in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ___ Inundated
- ___ Saturated in Upper 12 inches
- ___ Water Marks
- ✓ Drift Lines
- ✓ Sediment Deposits
- ✓ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ___ Oxidized Root Channels in Upper 12 in.
- ___ Water-Stained Leaves
- ___ Local Soil Survey Data
- ___ FAC-Neutral Test
- ___ Other (Explain in Remarks)

Remarks: Located on low gravel bench, adjacent to low-flow channel

SOILS

Map Unit Name
(Series and Phase) Yolo Loam 0-2% slope

Drainage Class:

Field Observations Confirm Mapped Type?
Yes [✓ No]

Taxonomy (Subgroup)

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
					cobble/gravel. w/some collected sediments.

Hydric Soil Indicators:

- Histosol
- Histic Epipedon
- Sulfidic Odor
- ✓ Aquic Moisture Regime
- Reducing Conditions
- Gleyed or Low-Chrome colors
- Concretions
- High Organic Content in Surface Layer in Sandy Soils
- Organic Streaking in Sandy Soils
- Listed on Local Hydric Soils List
- Listed on National Hydric Soils List
- Other (Explain in Remarks)

Remarks: To stony to dig pit.

WETLAND DETERMINATION

(Circle)

Hydrophytic Vegetation Present? [✓ Yes] No
Wetland Hydrology Present? [✓ Yes] No
Hydric Soils Present? [✓ Yes] No

(Circle)
Is this Sampling Point Within a Wetland? [✓ Yes] No

Remarks: Area located on broad gravel bench where channel broadens out & curves Directly downstream of narrower sac-creted area.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID
10-1-A

Project/Site: Upper Guadalupe River Flood Control Project
Applicant/Owner: Santa Clara Valley Water District
Investigator: Gale Rankin

Date: 6/27/95
County: Santa Clara
State: California

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation?) Yes [✓ No]
Is the area a potential Problem Area? Yes [✓ No]
(If needed, explain on reverse.)

Community ID:
Ruderal/Scrub

VEGETATION

Dominant Plant Species (x = dominant)	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
x 1 Baccharis pilularis	S/S	UPL	9 Robinia pseudo-acacia	S/S	FACW
x 2 Piptatherum miliaceum	HERB	UPL	10 Xanthium strumarium	Herb	FAC
3 Brassica nigra		UPL	11 Polygonum arenastrum	↓	FAC
4 Convolvulus arvensis		UPL	12		
5 Raphanus sativus		UPL	13		
6 Avena fatua		UPL	14		
7 Solanum sp		–	15		
8 Kickxia elatine	↓	NI	16		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 0

Remarks:

HYDROLOGY

_____ Recorded Data (Describe in Remarks):
_____ Stream, Lake, or Tide Gauge
_____ Aerial Photographs
_____ Other.
_____ No Recorded Data Available

Field Observation:

Depth of Surface Water: _____ (in.)
Depth to Free Water in Pit: _____ (in.)
Depth to Saturated Soil: _____ (in.)

Wetland Hydrology Indicators:

Primary Indicators:
_____ Inundated
_____ Saturated in Upper 12 inches
_____ Water Marks
_____ Drift Lines
_____ Sediment Deposits
_____ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
_____ Oxidized Root Channels in Upper 12 in.
_____ Water-Stained Leaves
_____ Local Soil Survey Data
_____ FAC-Neutral Test
_____ Other (Explain in Remarks)

Remarks:
Above OHW level, located on mid-upper bank
No indicators observed,

SOILS

Map Unit Name
(Series and Phase) Yolo silty clay loam 2-9% slopes

Drainage Class: ______

Field Observations Confirm Mapped Type? Yes [✓ No]

Taxonomy (Subgroup) ______

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
		10YR 3/2			

Hydric Soil Indicators:

______ Histosol
______ Histic Epipedon
______ Sulfidic Odor
______ Aquic Moisture Regime
______ Reducing Conditions
______ Gleyed or Low-Chrome colors
______ Concretions
______ High Organic Content in Surface Layer in Sandy Soils
______ Organic Streaking in Sandy Soils
______ Listed on Local Hydric Soils List
______ Listed on National Hydric Soils List
______ Other (Explain in Remarks)

Remarks: Dense, hard packed soil

WETLAND DETERMINATION

	(Circle)
Hydrophytic Vegetation Present?	Yes [✓ No]
Wetland Hydrology Present?	Yes [✓ No]
Hydric Soils Present?	Yes [✓ No]

Is this Sampling Point Within a Wetland? (Circle) Yes [✓ No]

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID: 10-1 B

Project/Site: Upper Guadalupe River Flood Control Project
Applicant/Owner: Santa Clara Valley Water District
Investigator: Gale Rankin

Date: 6/27/95
County: Santa Clara
State: California

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation?) Yes [✓ No]
Is the area a potential Problem Area? Yes [✓ No]
(If needed, explain on reverse.)

Community ID: Seasonal wetland

VEGETATION

Dominant Plant Species (* dominant)	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 Polypogon monspeliensis	HERB	FACW+	9 Brassica rapa	Herb	UPL
2 Rumex crispus		FACW	10 Poa annua		FACW
3 Ludwigia peploides		OBL	11 Gnaphalium sp		—
4 Rubus discolor		FACW	* 12 Veronica anagallis-aquatica		OBL
5 Polygonum lapathifolium		OBL	13 Rorippa nasturtium-aquaticum		OBL
6 Melilotus albus		FACU+	14 Plantago major		FACW
* 7 Paspalum dilatatum		FAC	15 Xanthium strumarium		FAC
8 Foeniculum vulgare	↓	FACU	16 Senecio vulgaris		NI
			* Unk grass (Cynodon?)		—
			Epilobium ciliatum var ciliatum	↓	FACW

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). at least 66%

Remarks: The unknown grass is growing in several inches of water, in dense patches. Is growing in wetter, lower location than many known hydrophytes at this sample point. It is clearly a hydrophyte

HYDROLOGY

✓ Recorded Data (Describe in Remarks):
- ✓ Stream, Lake, or Tide Gauge
- ____ Aerial Photographs
- ____ Other

____ No Recorded Data Available

Field Observation:

Depth of Surface Water: 0.5 (in.)

Depth to Free Water in Pit: ____ (in.)

Depth to Saturated Soil: ____ (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ✓ Inundated
- ✓ Saturated in Upper 12 inches
- ____ Water Marks
- ✓ Drift Lines
- ✓ Sediment Deposits
- ✓ Drainage Patterns in Wetlands
- ✓ algal mats

Secondary Indicators (2 or more required):
- ____ Oxidized Root Channels in Upper 12 in.
- ____ Water-Stained Leaves
- ____ Local Soil Survey Data
- ____ FAC-Neutral Test
- ____ Other (Explain in Remarks)

Remarks: Situated below OHW - beneath the majority of rooted woody vegetation & scoured banks, adjacent to & partially within H_2O.

SOILS

Map Unit Name (Series and Phase) Yolo silty clay loam 2-9% slopes

Drainage Class: ____

Field Observations Confirm Mapped Type? Yes [✓ No]

Taxonomy (Subgroup) ____

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-10"		10YR 3/2	NONE		Form-ribbon, has sand
10-30+"		2.5N & 2.5Y 2.5/1			

Hydric Soil Indicators:

- ____ Histosol
- ____ Histic Epipedon
- ____ Sulfidic Odor
- ✓ Aquic Moisture Regime
- ____ Reducing Conditions
- ____ Gleyed or Low-Chrome colors
- ____ Concretions
- ____ High Organic Content in Surface Layer in Sandy Soils
- ____ Organic Streaking in Sandy Soils
- ____ Listed on Local Hydric Soils List
- ____ Listed on National Hydric Soils List
- ____ Other (Explain in Remarks)

Remarks: Dark subsurface layer (as indicated above) present in some currently moist locations - is gleying process in progress here? Aquic moisture regime evident.

WETLAND DETERMINATION

(Circle)

Hydrophytic Vegetation Present? [✓ Yes] No

Wetland Hydrology Present? [✓ Yes] No

Hydric Soils Present? [✓ Yes] No

(Circle)

Is this Sampling Point Within a Wetland? [✓ Yes] No

Remarks: Site grades from inundated to currently dry, but entire area within OHW and supports wetland plant species.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID: 1D-2 A

Project/Site: Upper Guadalupe River Flood Control Project
Applicant/Owner: Santa Clara Valley Water District
Investigator: Gale Rankin

Date: 6/27/95
County: Santa Clara
State: California

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation?) Yes [✓ No]
Is the area a potential Problem Area? Yes [✓ No]
(If needed, explain on reverse.)

Community ID: Ruderal/grassland

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
*	1 Avena fatua	Herb	UPL		9		
	2 Xanthium strumarium	↓	FAC		10		
*	3 Brassica rapa	↓	UPL		11		
	4 Raphanus sativus	↓	UPL		12		
	5				13		
	6				14		
	7				15		
	8				16		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 0

Remarks:

HYDROLOGY

✓ Recorded Data (Describe in Remarks):
- ✓ Stream, Lake, or Tide Gauge
- ___ Aerial Photographs
- ___ Other.

___ No Recorded Data Available

Field Observation:

Depth of Surface Water: ______(in.)

Depth to Free Water in Pit: ______(in.)

Depth to Saturated Soil: ______(in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ___ Inundated
- ___ Saturated in Upper 12 inches
- ___ Water Marks
- ___ Drift Lines
- ___ Sediment Deposits
- ___ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ___ Oxidized Root Channels in Upper 12 in.
- ___ Water-Stained Leaves
- ___ Local Soil Survey Data
- ___ FAC-Neutral Test
- ___ Other (Explain in Remarks)

Remarks: Site located on slope above excavated channel - is high flow channel bench. bordered by upper levees (Is above gabion on east bank).

SOILS

Map Unit Name
(Series and Phase) Yolo silty clay loam 2-9% slopes

Drainage Class: ____

Field Observations Confirm Mapped Type? Yes [✓ No]

Taxonomy (Subgroup) ____

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
10"		10 YR 3/3, 3/2			

Hydric Soil Indicators:

____ Histosol
____ Histic Epipedon
____ Sulfidic Odor
____ Aquic Moisture Regime
____ Reducing Conditions
____ Gleyed or Low-Chrome colors
____ Concretions
____ High Organic Content in Surface Layer in Sandy Soils
____ Organic Streaking in Sandy Soils
____ Listed on Local Hydric Soils List
____ Listed on National Hydric Soils List
____ Other (Explain in Remarks)

Remarks: no hydric indicators

WETLAND DETERMINATION

(Circle)
Hydrophytic Vegetation Present? Yes [✓ No]
Wetland Hydrology Present? Yes [✓ No]
Hydric Soils Present? Yes [✓ No]

(Circle)
Is this Sampling Point Within a Wetland? Yes [✓ No]

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID: 10-2-B

Project/Site: Upper Guadalupe River Flood Control Project
Applicant/Owner: Santa Clara Valley Water District
Investigator: Gale Rankin

Date: 1/26/95
County: Santa Clara
State: California

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation?) Yes [✓ No]
Is the area a potential Problem Area? Yes [✓ No]
(If needed, explain on reverse.)

Community ID: Seasonal Wetland

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 Paspalum dilatatum	HERB	FAC	9		
2 Ludwigia peploides		OBL	10		
3 Eleocharis sp.		≥FACW	11		
4 Epilobium ciliatum var. ciliatum		FACW	12		
5 Rorippa nasturtium-aquaticum		OBL	13		
6 Xanthium strumarium		FAC	14		
7 Anagallis arvensis		UPL	15		
8 Plantago major	↓	FACW	16		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100

Remarks: some wetland veg grows on lowest gabion surface where sediments have collected

HYDROLOGY

✓ Recorded Data (Describe in Remarks):
___ Stream, Lake, or Tide Gauge
___ Aerial Photographs
___ Other.
___ No Recorded Data Available

Field Observation:

Depth of Surface Water: 6-12" (in.)
Depth to Free Water in Pit: no pit dug (in.)
Depth to Saturated Soil: ___ (in.)

Wetland Hydrology Indicators:

Primary Indicators:
✓ Inundated
___ Saturated in Upper 12 inches
___ Water Marks
___ Drift Lines
___ Sediment Deposits
✓ Drainage Patterns in Wetlands
✓ algae & algal mats

Secondary Indicators (2 or more required):
___ Oxidized Root Channels in Upper 12 in.
___ Water-Stained Leaves
___ Local Soil Survey Data
___ FAC-Neutral Test
___ Other (Explain in Remarks)

Remarks: site is located within "artificial" channel, bordered on both sides by gabion. Inundated area extends from toe to toe. Water flowing very slowly.

SOILS

Map Unit Name
(Series and Phase) Yolo silty clay loam 2-9% slopes
Drainage Class:
Field Observations Confirm Mapped Type? Yes [✓ No]
Taxonomy (Subgroup)

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.

Hydric Soil Indicators:

- ___ Histosol
- ___ Histic Epipedon
- ___ Sulfidic Odor
- ✓ Aquic Moisture Regime
- ___ Reducing Conditions
- ___ Gleyed or Low-Chrome colors
- ___ Concretions
- ___ High Organic Content in Surface Layer in Sandy Soils
- ___ Organic Streaking in Sandy Soils
- ___ Listed on Local Hydric Soils List
- ___ Listed on National Hydric Soils List
- ___ Other (Explain in Remarks)

Remarks: Site inundated. Channel bottom appears to be native soils.

WETLAND DETERMINATION

	(Circle)
Hydrophytic Vegetation Present?	[✓ Yes] No
Wetland Hydrology Present?	[✓ Yes] No
Hydric Soils Present?	[✓ Yes] No

Is this Sampling Point Within a Wetland? (Circle) [✓ Yes] No

Remarks: Wetland located in excavated channel which replaced the natural channel for construction of the Almaden Expressway. Bounded by gabion on both banks

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID: 103-A

Project/Site: Upper Guadalupe River Flood Control Project
Applicant/Owner: Santa Clara Valley Water District
Investigator: Gale Rankin

Date: 6/28/95
County: Santa Clara
State: California

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation?) Yes [✓ No]
Is the area a potential Problem Area? Yes [✓ No]
(If needed, explain on reverse.)

Community ID: Ruderal Grassland

VEGETATION

Plant Species (*Indicates dominants)	Stratum	Indicator	Plant Species	Stratum	Indicator
* 1 Avena fatua	HERB	UPL	9		
2 Lactuca Scariola.	↓	FAC	10		
3 Raphanus sativus		UPL	11		
4			12		
5			13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 0

Remarks:

HYDROLOGY

____ Recorded Data (Describe in Remarks):
- ____ Stream, Lake, or Tide Gauge
- ____ Aerial Photographs
- ____ Other

____ No Recorded Data Available

Field Observation:

Depth of Surface Water: ____ (in.)

Depth to Free Water in Pit: ____ (in.)

Depth to Saturated Soil: ____ (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ____ Inundated
- ____ Saturated in Upper 12 inches
- ____ Water Marks
- ____ Drift Lines
- ____ Sediment Deposits
- ____ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ____ Oxidized Root Channels in Upper 12 in.
- ____ Water-Stained Leaves
- ____ Local Soil Survey Data
- ____ FAC-Neutral Test
- ____ Other (Explain in Remarks)

Remarks: No indicators observed. Located on bank above channel bed

SOILS

Map Unit Name
(Series and Phase) Yolo silty Clay loam 2-9% slopes

Drainage Class: ____

Field Observations Confirm Mapped Type? Yes [✓ No]

Taxonomy (Subgroup) ____

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
-8"			7.5YR 3/2		fine sand

Hydric Soil Indicators:

____ Histosol
____ Histic Epipedon
____ Sulfidic Odor
____ Aquic Moisture Regime
____ Reducing Conditions
____ Gleyed or Low-Chrome colors

____ Concretions
____ High Organic Content in Surface Layer in Sandy Soils
____ Organic Streaking in Sandy Soils
____ Listed on Local Hydric Soils List
____ Listed on National Hydric Soils List
____ Other (Explain in Remarks)

Remarks: Similar sediments have collected in the gabions just below sample point. These are supporting wild radish & oats.

WETLAND DETERMINATION

(Circle)
Hydrophytic Vegetation Present? Yes [✓ No]
Wetland Hydrology Present? Yes [✓ No]
Hydric Soils Present? Yes [✓ No]

(Circle)
Is this Sampling Point Within a Wetland? Yes [✓ No]

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID: 10-3 B

Project/Site: Upper Guadalupe River Flood Control Project
Applicant/Owner: Santa Clara Valley Water District
Investigator: Gale Rankin

Date: 6/28/95
County: Santa Clara
State: California

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation?) Yes [✓ No]
Is the area a potential Problem Area? [✓ Yes] No
(If needed, explain on reverse.)

Community ID: Seasonal wetland

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 Xanthium strumarium	HERB	FAC	9 Brassica rapa	HERB	UPL
2 Melilotus indica		FAC	10 Cynodon dactylon		FAC
3 Cyperus eragrostis		FACW	11 Lactuca serriola		FAC
4 Rumex crispus		FACW	12 Polygonum arenastrum		FAC
5 Lolium multiflorum		FAC	13 Foeniculum vulgare		FACU
6 Polygonum lapathifolium		OBL	14 Artemisia douglasiana		FACW
7 Cuscuta		–	15 Bromus diandrus		UPL
8 Raphanus sativus		UPL	16		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100

Remarks: vegetation extremely dense, ~ 3-4' high

HYDROLOGY

✓ Recorded Data (Describe in Remarks):
✓ Stream, Lake, or Tide Gauge
___ Aerial Photographs
___ Other.
___ No Recorded Data Available

Field Observation:

Depth of Surface Water: none (in.)
Depth to Free Water in Pit: no pit dug (in.)
Depth to Saturated Soil: ___ (in.)

Wetland Hydrology Indicators:

Primary Indicators:
___ Inundated
___ Saturated in Upper 12 inches
___ Water Marks
___ Drift Lines
✓ Sediment Deposits
✓ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
___ Oxidized Root Channels in Upper 12 in.
___ Water-Stained Leaves
___ Local Soil Survey Data
___ FAC-Neutral Test
___ Other (Explain in Remarks)

Remarks: Presume OHW to extend to toe of east bank. Area gently slopes towards narrow (10') low flow channel. Between the low flow channel and this densely vegetated band, is a "low flow bench" with different vegetation & hydrological characteristics (see 11-3 C)

The entire area is within an excavated channel, which replaced the original river channel, Portions of both banks comprise sac-rete. Dominated only by Fac species in a very wet year - vegetation weak.

SOILS

Map Unit Name (Series and Phase) Yolo Silty Clay loam 2-9% slopes

Drainage Class:

Field Observations Confirm Mapped Type? Yes [✓ No]

Taxonomy (Subgroup)

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-2"					Cobbles & gravel on surface
2-10"		5YR 3/2			sandy

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ✓ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low-Chrome colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks: Stony soils, cannot dig. Presume aquic moisture regime if below OHW

WETLAND DETERMINATION

(Circle)

Hydrophytic Vegetation Present? [✓ Yes] No

Wetland Hydrology Present? [✓ Yes] No

Hydric Soils Present? [✓ Yes] No

(Circle)

Is this Sampling Point Within a Wetland? [✓ Yes] No

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID
10-3 C

Project/Site: Upper Guadalupe River Flood Control Project
Applicant/Owner: Santa Clara Valley Water District
Investigator: Gale Rankin

Date: 6/28/95
County: Santa Clara
State: California

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation?) Yes [✓ No]
Is the area a potential Problem Area? [✓ Yes] No
(If needed, explain on reverse.)

Community ID:
Seasonal wetland

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
* 1 Cynodon dactylon	HERB	FAC	9		
2 Xanthium strumarium	↓	FAC	10		
* 3 Unk grass (growing in H_2O) see		>FAC	11		
4 Polygonum hydropiperoides		OBL	12		
5 Lolium multiflorum		FAC	13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW or FAC
(excluding FAC-). 100

Remarks: vegetation patchy - ranging from sparse & areas with bare cobbles and algal mats to moderately dense.

HYDROLOGY

✓ Recorded Data (Describe in Remarks):
- ✓ Stream, Lake, or Tide Gauge
- ____ Aerial Photographs
- ____ Other.

____ No Recorded Data Available

Field Observation:

Depth of Surface Water: none to 2 (in.)

Depth to Free Water in Pit: ____ (in.)

Depth to Saturated Soil: ____ (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ✓ Inundated - on edge near low flow channel
- ____ Saturated in Upper 12 inches
- ____ Water Marks
- ✓ Drift Lines
- ✓ Sediment Deposits
- ✓ Drainage Patterns in Wetlands
- ✓ algal mats - dense in some areas

Secondary Indicators (2 or more required):
- ____ Oxidized Root Channels in Upper 12 in.
- ____ Water-Stained Leaves
- ____ Local Soil Survey Data
- ____ FAC-Neutral Test
- ____ Other (Explain in Remarks)

Remarks: Located within excavated channel bed, just above low-flow channel

SOILS

Map Unit Name
(Series and Phase) Yolo silty clay loam 2-9% slopes

Drainage Class:

Field Observations Confirm Mapped Type?
Yes [✓ No]

Taxonomy (Subgroup)

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-4					cobbles & gravel
below 4		10 YR 3/2			coarse sand & gravel

Hydric Soil Indicators:

☐ Histosol
☐ Histic Epipedon
☐ Sulfidic Odor
☑ Aquic Moisture Regime
☐ Reducing Conditions
☐ Gleyed or Low-Chrome colors
☐ Concretions
☐ High Organic Content in Surface Layer in Sandy Soils
☐ Organic Streaking in Sandy Soils
☐ Listed on Local Hydric Soils List
☐ Listed on National Hydric Soils List
☐ Other (Explain in Remarks)

Remarks: to stony to dig pit.

WETLAND DETERMINATION

(Circle)

Hydrophytic Vegetation Present? [✓ Yes] No
Wetland Hydrology Present? [✓ Yes] No
Hydric Soils Present? [✓ Yes] No

(Circle)
Is this Sampling Point Within a Wetland? Yes No

Remarks: Gently grades into densely-vegetated Bac dominated area (see point 11-3-B

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID: 10-4-B

Project/Site: Upper Guadalupe River Flood Control Project
Applicant/Owner: Santa Clara Valley Water District
Investigator: Gale Rankin

Date: 6/28/95
County: Santa Clara
State: California

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation?) Yes [✓ No]
Is the area a potential Problem Area? Yes [✓ No]
(If needed, explain on reverse.)

Community ID: Seasonal wetland

VEGETATION

Plant Species (*Indicates dominants)	Stratum	Indicator	Plant Species	Stratum	Indicator
1 Xanthium strumarium	HERB	FAC	9		
2 Paspalum dilatatum		FAC	10		
3 Cyperus eragrostis		FACW	11		
4 Typha sp.		OBL	12		
* 5 Unk. grass #1		≥FAC	13		
6 Rumex crispus	↓	UPL	14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-).: 100

Remarks:

HYDROLOGY

✓ Recorded Data (Describe in Remarks):
- ____ Stream, Lake, or Tide Gauge
- ____ Aerial Photographs
- ____ Other

____ No Recorded Data Available

Field Observation:

Depth of Surface Water: 0-12 (in.)

Depth to Free Water in Pit: ____ (in.)

Depth to Saturated Soil: ____ (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ✓ Inundated
- ____ Saturated in Upper 12 inches
- ____ Water Marks
- ____ Drift Lines
- ____ Sediment Deposits
- ____ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ____ Oxidized Root Channels in Upper 12 in.
- ____ Water-Stained Leaves
- ____ Local Soil Survey Data
- ____ FAC-Neutral Test
- ____ Other (Explain in Remarks)

Remarks:

SOILS

Map Unit Name
(Series and Phase) Yolo silty clay loam 2-9% slopes

Drainage Class: ____

Field Observations Confirm Mapped Type?
Yes [✓ No]

Taxonomy (Subgroup) ____

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.

Hydric Soil Indicators:

____ Histosol
____ Histic Epipedon
____ Sulfidic Odor
✓ Aquic Moisture Regime
____ Reducing Conditions
____ Gleyed or Low-Chrome colors

____ Concretions
____ High Organic Content in Surface Layer in Sandy Soils
____ Organic Streaking in Sandy Soils
____ Listed on Local Hydric Soils List
____ Listed on National Hydric Soils List
____ Other (Explain in Remarks)

Remarks: Area below OHW, inundated during site survey

WETLAND DETERMINATION

(Circle)
Hydrophytic Vegetation Present? [✓ Yes] No
Wetland Hydrology Present? [✓ Yes] No
Hydric Soils Present? [✓ Yes] No

(Circle)
Is this Sampling Point Within a Wetland? Yes No

Remarks:

On OPPOSITE (Eastern) bank - some scouring evident, use as evidence of OHW level

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID: 11-1 A

Project/Site: Upper Guadalupe River Flood Control Project	Date: 6/19/95
Applicant/Owner: Santa Clara Valley Water District	County: Santa Clara
Investigator: Gale Rankin	State: California

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation?) Yes [✓ No]
Is the area a potential Problem Area? Yes [✓ No]
(If needed, explain on reverse.)

Community ID: Ruderal/Grassland

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
* 1	Avena fatua	HERB	UPL	9			
2	Foeniculum vulgare	↓	FACU	10			
3	Hordeum murinum ssp. leporinum		UPL	11			
x 4	Brassica rapa		UPL	12			
5				13			
6				14			
7				15			
8				16			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 0

Remarks:

HYDROLOGY

✓ Recorded Data (Describe in Remarks):
- ✓ Stream, Lake, or Tide Gauge
- ___ Aerial Photographs
- ___ Other.

___ No Recorded Data Available

Field Observation:

Depth of Surface Water: ______(in.)
Depth to Free Water in Pit: ______(in.)
Depth to Saturated Soil: ______(in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ___ Inundated
- ___ Saturated in Upper 12 inches
- ___ Water Marks
- ___ Drift Lines
- ___ Sediment Deposits
- ___ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ___ Oxidized Root Channels in Upper 12 in.
- ___ Water-Stained Leaves
- ___ Local Soil Survey Data
- ___ FAC-Neutral Test
- ___ Other (Explain in Remarks)

Remarks: No hydrology indicators observed. Point is above OHW

SOILS

Map Unit Name
(Series and Phase) Yolo silty clay loam 2-9% slopes

Drainage Class:

Field Observations Confirm Mapped Type?
Yes [✓ No]

Taxonomy (Subgroup)

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
10"			10YR 3/2	none	sandy w/ lots of pebbles & gravel

Hydric Soil Indicators:

_____ Histosol
_____ Histic Epipedon
_____ Sulfidic Odor
_____ Aquic Moisture Regime
_____ Reducing Conditions
_____ Gleyed or Low-Chrome colors

_____ Concretions
_____ High Organic Content in Surface Layer in Sandy Soils
_____ Organic Streaking in Sandy Soils
_____ Listed on Local Hydric Soils List
_____ Listed on National Hydric Soils List
_____ Other (Explain in Remarks)

Remarks: No indicators

WETLAND DETERMINATION

	(Circle)
Hydrophytic Vegetation Present?	Yes [✓ No]
Wetland Hydrology Present?	Yes [✓ No]
Hydric Soils Present?	Yes [✓ No]

Is this Sampling Point Within a Wetland? (Circle) Yes [✓ No]

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID: 11-1 B

Project/Site: Upper Guadalupe River Flood Control Project
Applicant/Owner: Santa Clara Valley Water District
Investigator: Gale Rankin

Date: 6/19/95
County: Santa Clara
State: California

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation?) Yes [✓ No]
Is the area a potential Problem Area? Yes [✓ No]
(If needed, explain on reverse.)

Community ID: Seasonal wetland

VEGETATION

~~Dominant~~ Plant Species *Dominants	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 Rubus discolor	HERB	FACW	9 Gnaphalium sp.	HERB	UPL
2 Foeniculum vulgare	↓	FACU	10 Polypogon monspeliensis	↓	FACW+
3 Lactuca serriola	↓	FAC	11 Veronica anagallis-aquatic	↓	OBL
X 4 Raphanus sativus	↓	UPL	12 Plantago major	↓	FACW-
X 5 Polygonum hydropiperoides	↓	OBL	13 Lolium multiflorum	↓	FAC
6 Brassica nigra	↓	UPL	14 Scirpus sp.	↓	>FAC
7 Rorippa nasturtium-aquaticum	↓	OBL	15 Mimulus guttatus	↓	OBL
8 Rumex crispus	↓	FACW-	16 *Xanthium strumarium	↓	FAC+
			Melilotus? - Chenopodium sp.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 66

Remarks:

HYDROLOGY

✓ Recorded Data (Describe in Remarks):
- ✓ Stream, Lake, or Tide Gauge
- ___ Aerial Photographs
- ___ Other.

___ No Recorded Data Available

Field Observation:

Depth of Surface Water: 0 (in.)

Depth to Free Water in Pit: NONE (in.)

Depth to Saturated Soil: NOT (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ___ Inundated
- ___ Saturated in Upper 12 inches
- ___ Water Marks
- ___ Drift Lines
- ___ Sediment Deposits
- ✓ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ___ Oxidized Root Channels in Upper 12 in.
- ___ Water-Stained Leaves
- ___ Local Soil Survey Data
- ___ FAC-Neutral Test
- ___ Other (Explain in Remarks)

Remarks: SITE LOCATED ON A BAR JUST D.S. OF BRANHAM AVE. BRIDGE, WHERE CREEK CHANNEL APPEARS TO HAVE BEEN PREVIOUSLY WIDENED. SCOUR LINES INDICATING OHW ON ~~BORDER~~ UPLAND BORDER. FLOWING WATER OF LOW FLOW CHANNEL AT "INSIDE" BORDER SOILS MOIST.

SOILS

Map Unit Name
(Series and Phase) Yolo silty clay loam 2-9% slopes

Drainage Class: ____________________

Field Observations Confirm Mapped Type?
Yes No

Taxonomy (Subgroup) ____________________

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-10		10YR 3/2			SANDY LOAM W/CLAYEY VEINS & GRAVEL
below 10					COBBLE

Hydric Soil Indicators:

____ Histosol
____ Histic Epipedon
____ Sulfidic Odor
✓ Aquic Moisture Regime
____ Reducing Conditions
____ Gleyed or Low-Chrome colors
____ Concretions
✓ High Organic Content in Surface Layer in Sandy Soils
____ Organic Streaking in Sandy Soils
____ Listed on Local Hydric Soils List
____ Listed on National Hydric Soils List
____ Other (Explain in Remarks)

Remarks: BELOW OHW

WETLAND DETERMINATION

	(Circle)	
Hydrophytic Vegetation Present?	Yes	No
Wetland Hydrology Present?	Yes	No
Hydric Soils Present?	Yes	No

Is this Sampling Point Within a Wetland? (Circle) Yes No

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID: 11-2 A

Project/Site: Upper Guadalupe River Flood Control Project
Applicant/Owner: Santa Clara Valley Water District
Investigator: Gale Rankin

Date: 6/19/95
County: Santa Clara
State: California

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation?) ~~Yes~~ [✓ No]
Is the area a potential Problem Area? Yes [✓ No]
(If needed, explain on reverse.)

Community ID: Ruderal

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
X 1	Piptatherum milliaceum	herb	UPL	9			
2	Xanthium strumarium	↓	FAC+	10			
3				11			
4				12			
5				13			
6				14			
7				15			
8				16			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 0

Remarks:

HYDROLOGY

____ Recorded Data (Describe in Remarks):
  ____ Stream, Lake, or Tide Gauge
  ____ Aerial Photographs
  ____ Other.
____ No Recorded Data Available

Field Observation:

Depth of Surface Water: ____ (in.)

Depth to Free Water in Pit: ____ (in.)

Depth to Saturated Soil: ____ (in.)

Wetland Hydrology Indicators:

Primary Indicators:
____ Inundated
____ Saturated in Upper 12 inches
____ Water Marks
____ Drift Lines
____ Sediment Deposits
____ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
____ Oxidized Root Channels in Upper 12 in.
____ Water-Stained Leaves
____ Local Soil Survey Data
____ FAC-Neutral Test
____ Other (Explain in Remarks)

Remarks: None observed; point is above OHW

SOILS

Map Unit Name
(Series and Phase) Yolo silty clay loam 2-9% slopes

Drainage Class:

Field Observations Confirm Mapped Type? Yes [✓ No]

Taxonomy (Subgroup)

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-12		10 YR 3/2			SANDY LOAM

Hydric Soil Indicators:

- Histosol
- Histic Epipedon
- Sulfidic Odor
- Aquic Moisture Regime
- Reducing Conditions
- Gleyed or Low-Chrome colors
- Concretions
- High Organic Content in Surface Layer in Sandy Soils
- Organic Streaking in Sandy Soils
- Listed on Local Hydric Soils List
- Listed on National Hydric Soils List
- Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

	(Circle)
Hydrophytic Vegetation Present?	Yes [✓ No]
Wetland Hydrology Present?	Yes [✓ No]
Hydric Soils Present?	Yes [✓ No]

Is this Sampling Point Within a Wetland? (Circle) Yes [✓ No]

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID
11-2 B

Project/Site: Upper Guadalupe River Flood Control Project	Date: 6/19/95
Applicant/Owner: Santa Clara Valley Water District	County: Santa Clara
Investigator: Gale Rankin	State: California
Do Normal Circumstances exist on the site? [✓ Yes] No Is the site significantly disturbed (Atypical Situation?) Yes [✓ No] Is the area a potential Problem Area? Yes [✓ No] (If needed, explain on reverse.)	Community ID: Seasonal wetland

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
* 1 Veronica anagallis-aquatica	Herb	OBL	9 Piptatherum miliaceum	Herb	UPL
2 Xanthium strumarium		FAC+	10 Rorippa nasturtium-aquaticum		OBL
* 3 Polygonum (not flowering)		OBL	11 Lactuca serriola		FAC
4 Foeniculum vulgare		FACU	12 Anagallis arvensis		UPL
5 Mimulus guttatus		OBL	13 Lolium multiflorum		FAC
6 Gnaphalium		UPL	14		
7 Rumex crispus		FACW-	15		
8 Cyperus eragrostis		FAC	16		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100

Remarks:

HYDROLOGY

✓ Recorded Data (Describe in Remarks):
- ✓ Stream, Lake, or Tide Gauge
- ___ Aerial Photographs
- ___ Other.

___ No Recorded Data Available

Field Observation:

Depth of Surface Water: ________(in.)

Depth to Free Water in Pit: ________(in.)

Depth to Saturated Soil: ________(in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ___ Inundated
- ___ Saturated in Upper 12 inches
- ___ Water Marks
- ___ Drift Lines
- ___ Sediment Deposits
- ___ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ___ Oxidized Root Channels in Upper 12 in.
- ___ Water-Stained Leaves
- ___ Local Soil Survey Data
- ___ FAC-Neutral Test
- ___ Other (Explain in Remarks)

Remarks: just below OHW level

SOILS

Map Unit Name
(Series and Phase) Yolo silty clay loam 2-9% slopes

Drainage Class:

Field Observations Confirm Mapped Type? Yes [✓ No]

Taxonomy (Subgroup)

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-13		10YR 3/2			SANDY LOAM
13					COBBLES

Hydric Soil Indicators:

- ___ Histosol
- ___ Histic Epipedon
- ___ Sulfidic Odor
- ✓ Aquic Moisture Regime
- ___ Reducing Conditions
- ___ Gleyed or Low-Chrome colors
- ___ Concretions
- ___ High Organic Content in Surface Layer in Sandy Soils
- ___ Organic Streaking in Sandy Soils
- ___ Listed on Local Hydric Soils List
- ___ Listed on National Hydric Soils List
- ___ Other (Explain in Remarks)

Remarks: Located just below OHW, presume aquic moisture regime.

WETLAND DETERMINATION

(Circle)

Hydrophytic Vegetation Present? [✓ Yes] No
Wetland Hydrology Present? [✓ Yes] No
Hydric Soils Present? [✓ Yes] No

(Circle)

Is this Sampling Point Within a Wetland? [✓ Yes] No

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID: 11-3-A

Project/Site: Upper Guadalupe River Flood Control Project
Applicant/Owner: Santa Clara Valley Water District
Investigator: Gale Rankin

Date: 6/20/95
County: Santa Clara
State: California

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation?) Yes [✓ No]
Is the area a potential Problem Area? Yes [✓ No]
(If needed, explain on reverse.)

Community ID: Ruderal (opening in disturbed riparian forest)

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	Rubus discolor	HERB	FACW	9			
* 2	Piptatherum miliaceum	│	UPL	10			
3	Foeniculum vulgare	│	FACU	11			
* 4	Raphanus sativa	│	UPL	12			
5	Melilotus indica	↓	FAC	13			
6				14			
7				15			
8				16			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 0

Remarks: Sparsely vegetated, mostly bare area with dense leaf litter cover from Schinus molle tree upslope

HYDROLOGY

✓ Recorded Data (Describe in Remarks):
- ✓ Stream, Lake, or Tide Gauge
- ___ Aerial Photographs
- ___ Other.

___ No Recorded Data Available

Field Observation:

Depth of Surface Water: ______(in.)

Depth to Free Water in Pit: ______(in.)

Depth to Saturated Soil: ______(in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ___ Inundated
- ___ Saturated in Upper 12 inches
- ___ Water Marks
- ___ Drift Lines
- ___ Sediment Deposits
- ___ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ___ Oxidized Root Channels in Upper 12 in.
- ___ Water-Stained Leaves
- ___ Local Soil Survey Data
- ___ FAC-Neutral Test
- ___ Other (Explain in Remarks)

Remarks: Area above OHW (rooted woody vegetation at this level on opposite bank)

SOILS

Map Unit Name
(Series and Phase) Yolo silty clay loam 2-9% slopes

Drainage Class: ____

Field Observations Confirm Mapped Type?
Yes [✓ No]

Taxonomy (Subgroup) ____

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-3"		7.5 YR 3/2			Sandy (fine) sediments

Hydric Soil Indicators:

____ Histosol
____ Histic Epipedon
____ Sulfidic Odor
____ Aquic Moisture Regime
____ Reducing Conditions
____ Gleyed or Low-Chrome colors'

____ Concretions
____ High Organic Content in Surface Layer in Sandy Soils
____ Organic Streaking in Sandy Soils
____ Listed on Local Hydric Soils List
____ Listed on National Hydric Soils List
____ Other (Explain in Remarks)

Remarks: bank is concrete w/ collected soils interspersed.
(conglomeral)

WETLAND DETERMINATION

(Circle)
Hydrophytic Vegetation Present? Yes [✓ No]
Wetland Hydrology Present? Yes [✓ No]
Hydric Soils Present? Yes [✓ No]

(Circle)
Is this Sampling Point Within a Wetland? Yes No

Remarks: Area above OHW, dominated by non-wetland plants, bare soils

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID
11-3 B

Project/Site: Upper Guadalupe River Flood Control Project
Applicant/Owner: Santa Clara Valley Water District
Investigator: Gale Rankin

Date: 6/20/95
County: Santa Clara
State: California

Do Normal Circumstances exist on the site? Yes No
Is the site significantly disturbed (Atypical Situation?) [✓ Yes] No
Is the area a potential Problem Area? Yes No
(If needed, explain on reverse.)

Community ID:
Seasonal Wetland

VEGETATION

	Dominant Plant Species (* = dominant)	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
✗	1 Rorippa nasturtium-aquaticum	Herb	OBL	9 Rubus discolor	HERB	FACW
*	2 Polygonum lapathifolium	|	OBL	10		
✗	3 Veronica anagallis-aquatica	|	OBL	11		
	4 Bromus diandrus	|	UPL	12		
	5 Xanthium strumarium	|	FAC	13		
	6 Melilotus indicus	|	FAC	14		
	7 Plantago major	|	FACW-	15		
	8 Rumex crispus	↓	FACW	16		

Percent of Dominant Species that are OBL, FACW or FAC
(excluding FAC-). 100

Remarks:

HYDROLOGY

✓ Recorded Data (Describe in Remarks):
- ✓ Stream, Lake, or Tide Gauge
- ___ Aerial Photographs
- ___ Other.

___ No Recorded Data Available

Field Observation:

Depth of Surface Water: ______(in.)

Depth to Free Water in Pit: ______(in.)

Depth to Saturated Soil: ______(in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ___ Inundated
- ___ Saturated in Upper 12 inches
- ___ Water Marks
- ___ Drift Lines
- ✓ Sediment Deposits
- ___ Drainage Patterns in Wetlands
- ✓ algal mats

Secondary Indicators (2 or more required):
- ___ Oxidized Root Channels in Upper 12 in.
- ___ Water-Stained Leaves
- ___ Local Soil Survey Data
- ___ FAC-Neutral Test
- ✓ Other (Explain in Remarks)

Remarks: ✓ - algal mats, below OHW line, soils nearly saturated

SOILS

Map Unit Name
(Series and Phase) Yolo silty clay loam 2-9% slopes

Drainage Class: ______

Field Observations Confirm Mapped Type?
Yes [✓ No]

Taxonomy (Subgroup) ______

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
max soil depth 6"		10YR 3/2			sandy (fine to coarse)

Hydric Soil Indicators:

___ Histosol
___ Histic Epipedon
___ Sulfidic Odor
✓ Aquic Moisture Regime
___ Reducing Conditions
___ Gleyed or Low-Chrome colors

___ Concretions
___ High Organic Content in Surface Layer in Sandy Soils
___ Organic Streaking in Sandy Soils
___ Listed on Local Hydric Soils List
___ Listed on National Hydric Soils List
___ Other (Explain in Remarks)

Remarks: area is below OHW

WETLAND DETERMINATION

	(Circle)
Hydrophytic Vegetation Present?	[✓ Yes] No
Wetland Hydrology Present?	[✓ Yes] No
Hydric Soils Present?	[✓ Yes] No

Is this Sampling Point Within a Wetland? (Circle) Yes No

Remarks: Area consists of sediments deposited on concrete fill, adjacent to low flow channel

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID: 11-4-A

Project/Site: Upper Guadalupe River Flood Control Project
Applicant/Owner: Santa Clara Valley Water District
Investigator: Gale Rankin

Date: 6/27/95
County: Santa Clara
State: California

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation?) Yes [✓ No]
Is the area a potential Problem Area? Yes [✓ No]
(If needed, explain on reverse.)

Community ID: Riparian forest (disturbed)

VEGETATION

Plant Species (*Indicates dominants)	Stratum	Indicator	Plant Species	Stratum	Indicator
* 1 Quercus agrifolia	Tree	UPL	9		
2 Robinia pseudoacacia	↓	FACW	10		
3 Arundo donax	↓	FACW	11		
* 4 Bromus diandrus	Herb	UPL	12		
5 Raphanus sativus	↓	UPL	13		
6 Xanthium strumarium	↓	FAC	14		
7 Brassica Rapa	↓	UPL	15		
8			16		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100

Remarks:

HYDROLOGY

✓ Recorded Data (Describe in Remarks):
___ Stream, Lake, or Tide Gauge
___ Aerial Photographs
___ Other
___ No Recorded Data Available

Field Observation:

Depth of Surface Water: ______(in.)
Depth to Free Water in Pit: ______(in.)
Depth to Saturated Soil: ______(in.)

Wetland Hydrology Indicators:

Primary Indicators:
___ Inundated
___ Saturated in Upper 12 inches
___ Water Marks
___ Drift Lines
___ Sediment Deposits
___ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
___ Oxidized Root Channels in Upper 12 in.
___ Water-Stained Leaves
___ Local Soil Survey Data
___ FAC-Neutral Test
___ Other (Explain in Remarks)

Remarks: no field indicators observed. Point is located above OHW. Some scouring of Soils at bend, however, where asphalt debris installed. Indicative of very high flows only, because (is higher than adjacent scoured areas).

SOILS

Map Unit Name (Series and Phase) Yolo silty clay loam 2-9% slopes

Drainage Class:

Field Observations Confirm Mapped Type? Yes [✓ No]

Taxonomy (Subgroup)

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
		5YR 3/2	NONE		

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low-Chrome colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks: Soil intermixed with asphalt blocks

WETLAND DETERMINATION

	(Circle)
Hydrophytic Vegetation Present?	Yes [✓ No]
Wetland Hydrology Present?	Yes [✓ No]
Hydric Soils Present?	Yes [✓ No]

Is this Sampling Point Within a Wetland? (Circle) Yes [✓ No]

Remarks: No indicators of any wetland parameters

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID: 11-4 B

Project/Site: Upper Guadalupe River Flood Control Project
Applicant/Owner: Santa Clara Valley Water District
Investigator: Gale Rankin

Date: 6/22/95
County: Santa Clara
State: California

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation?) SOILS [✓ Yes] No
Is the area a potential Problem Area? Yes [✓ No]
(If needed, explain on reverse.)

Community ID: Seasonal WETLAND

VEGETATION

	Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
*	1 Paspalum dilatatum	HERB	FAC	9 Melilotus indicus	HERB	FAC
	2 Veronica anagallis-aquatica	|	OBL	10 Xanthium strumarium	|	FAC
	3 Polygonum hydropiperoides	|	OBL	11 Rorippa nasturtium-aquaticum	↓	OBL
	4 Cyperus eragrostis	↓	FACW	12		
	5 Robinia pseudo-acacia (seedling)	S/S	FACW	13		
	6 Brassica nigra	HERB	UPL	14		
	7 Ludwigia peploides	↓	OBL	15		
*	8 Arundo donax	S/S	FACW	16		

Percent of Dominant Species that are OBL, FACW or FAC
(excluding FAC-). 100

Remarks:

HYDROLOGY

✓ Recorded Data (Describe in Remarks):
- ✓ Stream, Lake, or Tide Gauge
- ___ Aerial Photographs
- ___ Other.

___ No Recorded Data Available

Field Observation:

Depth of Surface Water: none (in.)
Depth to Free Water in Pit: no pit dug (in.)
Depth to Saturated Soil: ___ (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ___ Inundated
- ___ Saturated in Upper 12 inches
- ___ Water Marks
- ✓ Drift Lines - vegetation debris
- ✓ Sediment Deposits - dense
- ✓ Drainage Patterns in Wetlands
- ✓ algal mats (dense, abundant) in soils & vegetation

Secondary Indicators (2 or more required):
- ___ Oxidized Root Channels in Upper 12 in.
- ___ Water-Stained Leaves
- ___ Local Soil Survey Data
- ___ FAC-Neutral Test
- ___ Other (Explain in Remarks)

Remarks: Located below OHW, adjacent to flowing H_2O

SOILS

Map Unit Name
(Series and Phase) Yolo silty clay loam 2-9% slopes

Taxonomy (Subgroup) ______

Drainage Class: ______

Field Observations Confirm Mapped Type?
Yes [✓ No]

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
		no pit dug - soils too stony			

Hydric Soil Indicators:

______ Histosol
______ Histic Epipedon
______ Sulfidic Odor
✓ Aquic Moisture Regime
______ Reducing Conditions
______ Gleyed or Low-Chrome colors
______ Concretions
______ High Organic Content in Surface Layer in Sandy Soils
______ Organic Streaking in Sandy Soils
______ Listed on Local Hydric Soils List
______ Listed on National Hydric Soils List
______ Other (Explain in Remarks)

Remarks: Cobble and Gravel soils w/ little fine sediment collected. Concrete and conglomerate debris interspersed. Presume aquic moisture regime below OHW

WETLAND DETERMINATION

(Circle)

Hydrophytic Vegetation Present? [✓ Yes] No
Wetland Hydrology Present? [✓ Yes] No
Hydric Soils Present? [✓ Yes] No

(Circle)
Is this Sampling Point Within a Wetland? [✓ Yes] No

Remarks: Site on low bench within OHW line

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID
12-1-A

Project/Site: Upper Guadalupe River Flood Control Project
Applicant/Owner: Santa Clara Valley Water District
Investigator: Gale Rankin /L SQUIRES

Date: 6/30/95
County: Santa Clara
State: California

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation?) Yes [✓ No]
Is the area a potential Problem Area? Yes [✓ No]
(If needed, explain on reverse.)

Community ID:
Ruderal/grassland

VEGETATION

Plant Species (*Indicates dominants)	Stratum	Indicator	Plant Species	Stratum	Indicator
* 1 Avena fatua	Herb	UPL	9		
2 Raphnus sativus	|	UPL	10		
3 Rubus discolor	|	FACW	11		
* 4 Bromus diandrus	↓	UPL	12		
5			13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 0%

Remarks:

HYDROLOGY

✓ Recorded Data (Describe in Remarks):
- ✓ Stream, Lake, or Tide Gauge
- ___ Aerial Photographs
- ___ Other

___ No Recorded Data Available

Field Observation:

Depth of Surface Water: ______(in.)

Depth to Free Water in Pit: ______(in.)

Depth to Saturated Soil: ______(in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ___ Inundated
- ___ Saturated in Upper 12 inches
- ___ Water Marks
- ___ Drift Lines
- ___ Sediment Deposits
- ___ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ___ Oxidized Root Channels in Upper 12 in.
- ___ Water-Stained Leaves
- ___ Local Soil Survey Data
- ___ FAC-Neutral Test
- ___ Other (Explain in Remarks)

Remarks: No indicators observed; located on bank slope Above OHW

SOILS

Map Unit Name
(Series and Phase) Yolo loam 0-2% slopes

Drainage Class:

Field Observations Confirm Mapped Type?
Yes [✓ No]

Taxonomy (Subgroup)

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-8"		10YR 3/2			Sandy

Hydric Soil Indicators:

- ______ Histosol
- ______ Histic Epipedon
- ______ Sulfidic Odor
- ______ Aquic Moisture Regime
- ______ Reducing Conditions
- ______ Gleyed or Low-Chrome colors
- ______ Concretions
- ______ High Organic Content in Surface Layer in Sandy Soils
- ______ Organic Streaking in Sandy Soils
- ______ Listed on Local Hydric Soils List
- ______ Listed on National Hydric Soils List
- ______ Other (Explain in Remarks)

Remarks: No soils indicators

WETLAND DETERMINATION

(Circle)

Hydrophytic Vegetation Present? Yes [✓ No]
Wetland Hydrology Present? Yes [✓ No]
Hydric Soils Present? Yes [✓ No]

(Circle)

Is this Sampling Point Within a Wetland? Yes [✓ No]

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID: 12-1-B

Project/Site: Upper Guadalupe River Flood Control Project
Applicant/Owner: Santa Clara Valley Water District
Investigator: Gale Rankin/Louisa Squires

Date: 6/30/95
County: Santa Clara
State: California

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation?) Yes [✓ No]
Is the area a potential Problem Area? Yes [✓ No]
(If needed, explain on reverse.)

Community ID: Seasonal Wetlands

VEGETATION

Plant Species (*Indicates dominants)	Stratum	Indicator	Plant Species	Stratum	Indicator
* 1 Polygonum lapathifolium no cilia	herb	OBL	9 Veronica anagallis-aquatica	Herb	OBL
* 2 Polygonum hydropiperoides cilia	herb	OBL	10 Ludwigia peploides	↓	OBL
* 3 Xanthium strumarium	herb	FAC+	11 Melilotus indica		FAC
4 Rumex crispus	↓	FACW-	12 Rorripa nasturtium-aquaticum		OBL
5 Raphnus sativus		UPL	13 Cuscuta spp.		-
6 Artemisia douglasiana		FACW	14 Lolium multiflorum		FAC
7 Rubus discolor		FACW	15 Echinochloa crus-galli		FACW
8 Polypogon monspeliensis		FAC	16		

5 leaflets removed spp.

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100%

Remarks:

HYDROLOGY

✓ Recorded Data (Describe in Remarks):
  ✓ Stream, Lake, or Tide Gauge
  ___ Aerial Photographs
  ___ Other
___ No Recorded Data Available

Field Observation:

Depth of Surface Water: ______(in.)
Depth to Free Water in Pit: ______(in.)
Depth to Saturated Soil: ______(in.)

Wetland Hydrology Indicators:

Primary Indicators:
___ Inundated
___ Saturated in Upper 12 inches
___ Water Marks
___ Drift Lines
___ Sediment Deposits
✓ Drainage Patterns in Wetlands
✓ Algal mats (@ Lower edge)

Secondary Indicators (2 or more required):
___ Oxidized Root Channels in Upper 12 in.
___ Water-Stained Leaves
___ Local Soil Survey Data
___ FAC-Neutral Test
___ Other (Explain in Remarks)

Remarks: Below OHW, located on a bench just above low flow channel, grades gently up to steeper bank area dominated by upland species

SOILS

Map Unit Name
(Series and Phase) Yolo loam 0-2% slope

Drainage Class:

Field Observations Confirm Mapped Type?
Yes [✓ No]

Taxonomy (Subgroup)

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-8"			10YR 3/2	NONE	Sandy

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ✓ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low-Chrome colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks: Presumed aquic moisture regime because below OHW

WETLAND DETERMINATION

(Circle)
Hydrophytic Vegetation Present? [✓ Yes] No
Wetland Hydrology Present? [✓ Yes] No
Hydric Soils Present? [✓ Yes] No

(Circle)
Is this Sampling Point Within a Wetland? [✓ Yes] No

Remarks: Site is a bench adjacent to low flow that grades gently to: more steeply sloping channel bank. sandbank that has developed just u/s of Branham Lane bridge.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID. 12-2-A

Project/Site: Upper Guadalupe River Flood Control Project
Applicant/Owner: Santa Clara Valley Water District
Investigator: Gale Rankin/L. SQUIRES

Date: 6/30/95
County: Santa Clara
State: California

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation?) Yes [✓ No]
Is the area a potential Problem Area? Yes [✓ No]
(If needed, explain on reverse.)

Community ID: Ruderal grassland

VEGETATION

Plant Species (*Indicates dominants)	Stratum	Indicator	Plant Species	Stratum	Indicator
* 1 Avena fatua	H	UPL	9		
2 Carduus pyncnocephalus	↓	UPL	10		
3 Artemisia douglasiana	↓	FACW	11		
4 Rumex crispus	↓	FACW	12		
5			13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 0%

Remarks:

HYDROLOGY

✓ Recorded Data (Describe in Remarks):
- ✓ Stream, Lake, or Tide Gauge
- ___ Aerial Photographs
- ___ Other

___ No Recorded Data Available

Field Observation:

Depth of Surface Water: ________(in.)

Depth to Free Water in Pit: ________(in.)

Depth to Saturated Soil: ________(in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ___ Inundated
- ___ Saturated in Upper 12 inches
- ___ Water Marks
- ___ Drift Lines
- ___ Sediment Deposits
- ___ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ___ Oxidized Root Channels in Upper 12 in.
- ___ Water-Stained Leaves
- ___ Local Soil Survey Data
- ___ FAC-Neutral Test
- ___ Other (Explain in Remarks)

Remarks: No indicators observed

SOILS

Map Unit Name
(Series and Phase) Yolo Loam 0-2% Slopes

Drainage Class: —

Field Observations Confirm Mapped Type? Yes [✓ No]

Taxonomy (Subgroup)

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-8"		10YR 3/2			Sandy

Hydric Soil Indicators:

____	Histosol	____	Concretions
____	Histic Epipedon	____	High Organic Content in Surface Layer in Sandy Soils
____	Sulfidic Odor	____	Organic Streaking in Sandy Soils
____	Aquic Moisture Regime	____	Listed on Local Hydric Soils List
____	Reducing Conditions	____	Listed on National Hydric Soils List
____	Gleyed or Low-Chrome colors	____	Other (Explain in Remarks)

Remarks: No indicators

WETLAND DETERMINATION

	(Circle)
Hydrophytic Vegetation Present?	Yes [✓ No]
Wetland Hydrology Present?	Yes [✓ No]
Hydric Soils Present?	Yes [✓ No]

Is this Sampling Point Within a Wetland? (Circle) Yes [✓ No]

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID: 10-4-A

Project/Site: Upper Guadalupe River Flood Control Project
Applicant/Owner: Santa Clara Valley Water District
Investigator: Gale Rankin

Date: 6/28/95
County: Santa Clara
State: California

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation?) Yes [✓ No]
Is the area a potential Problem Area? Yes [✓ No]
(If needed, explain on reverse.)

Community ID: Ruderal

VEGETATION

Plant Species (*Indicates dominants)	Stratum	Indicator	Plant Species	Stratum	Indicator
1 Raphanus sativus	HERB	UPL	9		
2 Eschscholzia californica	HERB	UPL	10		
3 Bromus catharticus	HERB	UPL	11		
4			12		
5			13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 0

Remarks:

HYDROLOGY

✓ Recorded Data (Describe in Remarks):
- ______ Stream, Lake, or Tide Gauge
- ______ Aerial Photographs
- ______ Other

______ No Recorded Data Available

Field Observation:

Depth of Surface Water: ______(in.)

Depth to Free Water in Pit: ______(in.)

Depth to Saturated Soil: ______(in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ______ Inundated
- ______ Saturated in Upper 12 inches
- ______ Water Marks
- ______ Drift Lines
- ______ Sediment Deposits
- ______ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ______ Oxidized Root Channels in Upper 12 in.
- ______ Water-Stained Leaves
- ______ Local Soil Survey Data
- ______ FAC-Neutral Test
- ______ Other (Explain in Remarks)

Remarks: no field indicators. Point located on gabion above OHW. level - on bank slope

SOILS

Map Unit Name
(Series and Phase) Yolo silty clay loam 2-9% slopes

Drainage Class: ____

Field Observations Confirm Mapped Type? Yes [✓ No]

Taxonomy (Subgroup) ____

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.

Hydric Soil Indicators:

____ Histosol
____ Histic Epipedon
____ Sulfidic Odor
✓ Aquic Moisture Regime
____ Reducing Conditions
____ Gleyed or Low-Chrome colors
____ Concretions
____ High Organic Content in Surface Layer in Sandy Soils
____ Organic Streaking in Sandy Soils
____ Listed on Local Hydric Soils List
____ Listed on National Hydric Soils List
____ Other (Explain in Remarks)

Remarks: Area below OHW, inundated during site survey

WETLAND DETERMINATION

	(Circle)	
Hydrophytic Vegetation Present?	[✓ Yes]	No
Wetland Hydrology Present?	[✓ Yes]	No
Hydric Soils Present?	[✓ Yes]	No

Is this Sampling Point Within a Wetland? (Circle) Yes No

Remarks:

On OPPOSITE (Eastern) bank - some scouring evident, use as evidence of OHW level

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID: 12-2-B

Project/Site: Upper Guadalupe River Flood Control Project
Applicant/Owner: Santa Clara Valley Water District
Investigator: Gale Rankin/L. SQUIRES

Date: 6/30/95
County: Santa Clara
State: California

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation?) Yes [✓ No]
Is the area a potential Problem Area? [✓ Yes] No
(If needed, explain on reverse.)

Community ID: seasonal wetland

VEGETATION

Plant Species (*Indicates dominants)	Stratum	Indicator	Plant Species	Stratum	Indicator
1 Brassica rapa [illegible]	H	FAC	9 Rubus discolor	Herb	FACW
2 Phalarus sp.		–	10 Polygonum lapathifolium		OBL
**3 Xanthium strumarium		FAC+	11 [illegible]		
4 Rumex crispus		FACW-	12 Cynodon dactylon		FAC
5 Rumex sp.		-	13 Polypogon monspelensisis		FACW
6 Melilotus indica		FAC	14 Aster spp.		–
7 Raphnus sativus		UPL	15 Cuscuta spp.		–
8 Cyperus sp.	↓	>FAC	16 Ludwigia pepeloides	↓	OBL

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100%

Remarks: Xanthium dominated; other 3 "dominants" collectively make up about 20% of plant community (Brassica, rumex, cyperus)

HYDROLOGY

✓ Recorded Data (Describe in Remarks):
- ✓ Stream, Lake, or Tide Gauge
- ___ Aerial Photographs
- ___ Other

___ No Recorded Data Available

Field Observation:

Depth of Surface Water: ______(in.)

Depth to Free Water in Pit: ______(in.)

Depth to Saturated Soil: ______(in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ___ Inundated
- ___ Saturated in Upper 12 inches
- ___ Water Marks
- ___ Drift Lines
- ___ Sediment Deposits
- ✓ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ___ Oxidized Root Channels in Upper 12 in.
- ___ Water-Stained Leaves
- ___ Local Soil Survey Data
- ___ FAC-Neutral Test
- ___ Other (Explain in Remarks)

Remarks: mapped upper limit from "topo" map using lowest topo line that did not cross channel in the vicinity; this upper limit corresponds with definite change in plant community and topography.

SOILS

Map Unit Name
(Series and Phase) Yolo loam 0-2% slopes

Drainage Class:

Field Observations Confirm Mapped Type? Yes [✓ No]

Taxonomy (Subgroup)

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-8"		10YR 3/2			Sandy

Hydric Soil Indicators:

☐ Histosol
☐ Histic Epipedon
☐ Sulfidic Odor
☑ Aquic Moisture Regime
☐ Reducing Conditions
☐ Gleyed or Low-Chrome colors
☐ Concretions
☐ High Organic Content in Surface Layer in Sandy Soils
☐ Organic Streaking in Sandy Soils
☐ Listed on Local Hydric Soils List
☐ Listed on National Hydric Soils List
☐ Other (Explain in Remarks)

Remarks: Presumed aquic moisture regime - below OHW

WETLAND DETERMINATION

(Circle)
Hydrophytic Vegetation Present? [✓ Yes] No
Wetland Hydrology Present? [✓ Yes] No
Hydric Soils Present? [✓ Yes] No

(Circle)
Is this Sampling Point Within a Wetland? Yes No

Remarks: Transitional wetland on drier end and dominated by weedy facw plant spp. Hydrology indicator data weak - based on photointerpreted topo lines; wet year.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID: 12-3-A

Project/Site: Upper Guadalupe River Flood Control Project	Date: 6/30/95
Applicant/Owner: Santa Clara Valley Water District	County: Santa Clara
Investigator: Gale Rankin / L SQUIRES	State: California

Do Normal Circumstances exist on the site? [✓ Yes] No

Is the site significantly disturbed (Atypical Situation?) Yes [✓ No]

Is the area a potential Problem Area? Yes [✓ No]

(If needed, explain on reverse.)

Community ID: Ruderal

VEGETATION

Plant Species (*Indicates dominants)	Stratum	Indicator	Plant Species	Stratum	Indicator
* 1 Brassica nigra	HERB	UPL	9		
* 2 Paspalum dilitatum	↓	FAC	10		
* 3 Bromus catharticus		UPL	11		
4 Cyperus eragrostis		FACW	12		
5			13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 33%

Remarks: Paspalum growing on upper slope of levee, suspect as an artifact of inundation zone of spreader dam

HYDROLOGY

✓ Recorded Data (Describe in Remarks):
- ✓ Stream, Lake, or Tide Gauge
- ___ Aerial Photographs
- ___ Other

___ No Recorded Data Available

Field Observation:

Depth of Surface Water: ______ (in.)

Depth to Free Water in Pit: ______ (in.)

Depth to Saturated Soil: ______ (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ___ Inundated
- ___ Saturated in Upper 12 inches
- ___ Water Marks
- ___ Drift Lines
- ___ Sediment Deposits
- ___ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ___ Oxidized Root Channels in Upper 12 in.
- ___ Water-Stained Leaves
- ___ Local Soil Survey Data
- ___ FAC-Neutral Test
- ___ Other (Explain in Remarks)

Remarks: no hydrology indicators

SOILS

Map Unit Name (Series and Phase) Pits

Drainage Class: ____________

Field Observations Confirm Mapped Type? Yes [✓ No]

Taxonomy (Subgroup) ____________

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-8"		10YR-3/2			gravelly

Hydric Soil Indicators:

____ Histosol

____ Histic Epipedon

____ Sulfidic Odor

____ Aquic Moisture Regime

____ Reducing Conditions

____ Gleyed or Low-Chrome colors

____ Concretions

____ High Organic Content in Surface Layer in Sandy Soils

____ Organic Streaking in Sandy Soils

____ Listed on Local Hydric Soils List

____ Listed on National Hydric Soils List

____ Other (Explain in Remarks)

Remarks: no soils indicators

WETLAND DETERMINATION

(Circle)

Hydrophytic Vegetation Present? Yes [✓ No]

Wetland Hydrology Present? Yes [✓ No]

Hydric Soils Present? Yes [✓ No]

(Circle)

Is this Sampling Point Within a Wetland? Yes No

Remarks: Located on bank slope above OHW; abrupt change in topography to steep slope

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID: 12-3-B

Project/Site: Upper Guadalupe River Flood Control Project
Applicant/Owner: Santa Clara Valley Water District
Investigator: Gale Rankin / L. SQUIRES

Date: 6/30/95
County: Santa Clara
State: California

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation?) Yes [✓ No]
Is the area a potential Problem Area? Yes [✓ No]
(If needed, explain on reverse.)

Community ID: Perennial Emergent Wetland

VEGETATION

Plant Species (*Indicates dominants)	Stratum	Indicator	Plant Species	Stratum	Indicator
* 1 Typha angustifolia	HERB	OBL	9		
2 Cynodon dactylon	|	FAC	10		
3 Ludwigia peploides	|	OBL	11		
4 Polypogon monspeliensis	|	FAC	12		
5 Polygonum lapathifolium	|	OBL	13		
6 Xanthium strumarium	↓	FAC	14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100%

Remarks: ~60% absolute Typha cover in dense stand. This type of perennial hydrophytic vegetation typical of summer impounded water from spreader dams (not installed this year)

HYDROLOGY

✓ Recorded Data (Describe in Remarks):
- ✓ Stream, Lake, or Tide Gauge
- ___ Aerial Photographs
- ___ Other

___ No Recorded Data Available

Field Observation:

Depth of Surface Water: ______(in.)

Depth to Free Water in Pit: ______(in.)

Depth to Saturated Soil: ______(in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ___ Inundated
- ___ Saturated in Upper 12 inches
- ___ Water Marks
- ___ Drift Lines
- ✓ Sediment Deposits
- ✓ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ___ Oxidized Root Channels in Upper 12 in.
- ___ Water-Stained Leaves
- ___ Local Soil Survey Data
- ___ FAC-Neutral Test
- ___ Other (Explain in Remarks)

Remarks: Below OHW on narrow bench grading gently upslope to an abrupt change in topography.

SOILS

Map Unit Name
(Series and Phase) Pds

Drainage Class:

Field Observations Confirm Mapped Type?
Yes [✓ No]

Taxonomy (Subgroup)

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-8"		10YR 3/2			Sandy-clay

Hydric Soil Indicators:

	Histosol		Concretions
	Histic Epipedon	✓	High Organic Content in Surface Layer in Sandy Soils
	Sulfidic Odor		Organic Streaking in Sandy Soils
✓	Aquic Moisture Regime		Listed on Local Hydric Soils List
	Reducing Conditions		Listed on National Hydric Soils List
	Gleyed or Low-Chrome colors		Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

(Circle)
Hydrophytic Vegetation Present? [✓ Yes] No
Wetland Hydrology Present? [✓ Yes] No
Hydric Soils Present? [✓ Yes] No

(Circle)
Is this Sampling Point Within a Wetland? [✓ Yes] No

Remarks: Dominant Vegetation type is result of summer impoundment of water on a regular basis. Would expect only seasonal wetland vegetation here otherwise

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID: 1224 A

Project/Site: Upper Guadalupe River Flood Control Project
Applicant/Owner: Santa Clara Valley Water District
Investigator: Gale Rankin

Date: 7/13/95
County: Santa Clara
State: California

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation?) Yes [✓ No]
Is the area a potential Problem Area? Yes [✓ No]
(If needed, explain on reverse.)

Community ID: ruderal

VEGETATION

	Plant Species (*Indicates dominants)	Stratum	Indicator		Plant Species	Stratum	Indicator
1	Lolium multiflorum	HERB	FAC	9			
2	Epilobium	↓	UPL	10			
* 3	Avena fatua	↓	UPL	11			
* 4	Bromus diandrus	↓	UPL	12			
5	Brassica rapa	↓	UPL	13			
6				14			
7				15			
8				16			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 0

Remarks:

HYDROLOGY

_____ Recorded Data (Describe in Remarks):
_____ Stream, Lake, or Tide Gauge
_____ Aerial Photographs
_____ Other
_____ No Recorded Data Available

Field Observation:

Depth of Surface Water: _____(in.)

Depth to Free Water in Pit: _____(in.)

Depth to Saturated Soil: _____(in.)

Wetland Hydrology Indicators:

Primary Indicators:
_____ Inundated
_____ Saturated in Upper 12 inches
_____ Water Marks
_____ Drift Lines
_____ Sediment Deposits
_____ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
_____ Oxidized Root Channels in Upper 12 in.
_____ Water-Stained Leaves
_____ Local Soil Survey Data
_____ FAC-Neutral Test
_____ Other (Explain in Remarks)

Remarks: no indicators seen. Point is located on bank (levee) slope, relatively steep.

SOILS

Map Unit Name
(Series and Phase) Pits

Drainage Class: ________

Field Observations Confirm Mapped Type? Yes [✓ No]

Taxonomy (Subgroup) ________

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-10"		5YR 3/2 (the silty part)			very stony with silt

Hydric Soil Indicators:

_____ Histosol
_____ Histic Epipedon
_____ Sulfidic Odor
_____ Aquic Moisture Regime
_____ Reducing Conditions
_____ Gleyed or Low-Chrome colors
_____ Concretions
_____ High Organic Content in Surface Layer in Sandy Soils
_____ Organic Streaking in Sandy Soils
_____ Listed on Local Hydric Soils List
_____ Listed on National Hydric Soils List
_____ Other (Explain in Remarks)

Remarks: no hydric indicators found. Similar to soils at point 3, but stone:silt lower

WETLAND DETERMINATION

(Circle)
Hydrophytic Vegetation Present? Yes [✓ No]
Wetland Hydrology Present? Yes [✓ No]
Hydric Soils Present? Yes [✓ No]

(Circle)
Is this Sampling Point Within a Wetland? Yes [✓ No]

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID
12-5A

Project/Site: Upper Guadalupe River Flood Control Project	Date: 7/13/95
Applicant/Owner: Santa Clara Valley Water District	County: Santa Clara
Investigator: Gale Rankin	State: California

Do Normal Circumstances exist on the site?	[✓ Yes] No	Community ID:
Is the site significantly disturbed (Atypical Situation?)	Yes [✓ No]	Rudeal
Is the area a potential Problem Area? (If needed, explain on reverse.)	Yes [✓ No]	

VEGETATION

Plant Species (*Indicates dominants)	Stratum	Indicator	Plant Species	Stratum	Indicator
* 1 Raphanus sativus	HERB	UPL	9		
2 Avena fatua	↓	UPL	10		
3 Bromus diandrus	↓	UPL	11		
4 Foeniculum vulgare	↓	FACU	12		
5 Cynodon dactylon	↓	FAC	13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-).

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

____ Recorded Data (Describe in Remarks):	Primary Indicators:
____ Stream, Lake, or Tide Gauge	____ Inundated
____ Aerial Photographs	____ Saturated in Upper 12 inches
____ Other	____ Water Marks
____ No Recorded Data Available	____ Drift Lines
	____ Sediment Deposits
Field Observation:	____ Drainage Patterns in Wetlands
	Secondary Indicators (2 or more required):
Depth of Surface Water: ____ (in.)	____ Oxidized Root Channels in Upper 12 in.
Depth to Free Water in Pit: ____ (in.)	____ Water-Stained Leaves
	____ Local Soil Survey Data
Depth to Saturated Soil: ____ (in.)	____ FAC-Neutral Test
	____ Other (Explain in Remarks)

Remarks: no indicators observed. Point located on steep bank (levee), above OHW

SOILS

Map Unit Name
(Series and Phase) Pito

Drainage Class: ________

Field Observations Confirm Mapped Type? Yes [✓ No]

Taxonomy (Subgroup) ________

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-10"		3/1 10YR 3/2			

Hydric Soil Indicators:

_____ Histosol
_____ Histic Epipedon
_____ Sulfidic Odor
_____ Aquic Moisture Regime
_____ Reducing Conditions
_____ Gleyed or Low-Chrome colors
_____ Concretions
_____ High Organic Content in Surface Layer in Sandy Soils
_____ Organic Streaking in Sandy Soils
_____ Listed on Local Hydric Soils List
_____ Listed on National Hydric Soils List
_____ Other (Explain in Remarks)

Remarks: Dark soil, no mottles

WETLAND DETERMINATION

(Circle)

Hydrophytic Vegetation Present? Yes [✓ No]
Wetland Hydrology Present? Yes [✓ No]
Hydric Soils Present? Yes [✓ No]

(Circle)

Is this Sampling Point Within a Wetland? Yes [✓ No]

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID: 12-4.B

Project/Site: Upper Guadalupe River Flood Control Project
Applicant/Owner: Santa Clara Valley Water District
Investigator: Gale Rankin

Date: 7/13/95
County: Santa Clara
State: California

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation?) summer dam Yes [✓ No]
Is the area a potential Problem Area? [✓ Yes] No
(If needed, explain on reverse.)

Community ID: Seasonal wetland

VEGETATION

Plant Species (*Indicates dominants)	Stratum	Indicator	Plant Species	Stratum	Indicator
1 Polypogon monspeliensis	HERB	FACW+	9 Poa annua	HERB	FACW
2 Conyza canadensis		UPL	10 Polygonum arenastrum	↓	FAC
3 Picris echioides		FAC	11		
4 Melilotus albus		FACU+	12		
5 Polygonum hydropiperoides		OBL	13		
6 Plantago major		FACW-	14		
7 Gnaphalium sp.		–	15		
8 Crypsis schoenoides	↓	OBL	16		

Percent of Dominant Species that are OBL, FACW or FAC
(excluding FAC-). 100

Remarks: Wetland veg may extend above OHW here, possibly due to pun effects of summer dam and unusually high rainfall. Polypogon forms almost continuous rim at the base of the slope on the west bank through here.

HYDROLOGY

✓ Recorded Data (Describe in Remarks):
- ✓ Stream, Lake, or Tide Gauge
- ___ Aerial Photographs
- ___ Other

___ No Recorded Data Available

Field Observation:

Depth of Surface Water: ______(in.)
Depth to Free Water in Pit: ______(in.)
Depth to Saturated Soil: ______(in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ___ Inundated
- ___ Saturated in Upper 12 inches
- ___ Water Marks
- ___ Drift Lines
- ___ Sediment Deposits
- ✓ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ___ Oxidized Root Channels in Upper 12 in.
- ___ Water-Stained Leaves
- ___ Local Soil Survey Data
- ___ FAC-Neutral Test
- ___ Other (Explain in Remarks)

Remarks: Located in relatively narrow linear depression between steep levee slope and gravel bar. Below OHW - edges slightly incised

SOILS

Map Unit Name
(Series and Phase) Pito

Drainage Class:

Field Observations Confirm Mapped Type? Yes [✓ No]

Taxonomy (Subgroup)

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
					Small-med stones with silt

Hydric Soil Indicators:

- Histosol
- Histic Epipedon
- Sulfidic Odor
- ✓ Aquic Moisture Regime
- Reducing Conditions
- Gleyed or Low-Chrome colors
- Concretions
- High Organic Content in Surface Layer in Sandy Soils
- Organic Streaking in Sandy Soils
- Listed on Local Hydric Soils List
- Listed on National Hydric Soils List
- Other (Explain in Remarks)

Remarks: soil to stony to dig pit or get soil color. Presume aquic moisture regime below OHW

WETLAND DETERMINATION

(Circle)

Hydrophytic Vegetation Present? [✓ Yes] No
Wetland Hydrology Present? [✓ Yes] No
Hydric Soils Present? [✓ Yes] No

(Circle)
Is this Sampling Point Within a Wetland? [✓ Yes] No

Remarks: Borderline site, with both hydrology and soils based on relatively weak evidence of ordinary high water, Some vegetation may have grown due to past presence of summer dams and this years unusually high rainfall

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID: 12-5 B

Project/Site: Upper Guadalupe River Flood Control Project
Applicant/Owner: Santa Clara Valley Water District
Investigator: Gale Rankin

Date: 7/13/95
County: Santa Clara
State: California

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation?) Yes [✓ No]
Is the area a potential Problem Area? [✓ Yes] No
(If needed, explain on reverse.)

Community ID: seasonal wetland

VEGETATION

Plant Species (*Indicates dominants)	Stratum	Indicator	Plant Species	Stratum	Indicator
* 1 Polypogon monspeliensis	HERB	FACW	9		
2 Xanthium strumarium	↓	FAC	10		
* 3 Lolium multiflorum		FAC	11		
4 Typha angustifolia		OBL	12		
5			13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100

Remarks:

HYDROLOGY

✓ Recorded Data (Describe in Remarks):
___ Stream, Lake, or Tide Gauge
___ Aerial Photographs
___ Other
___ No Recorded Data Available

Field Observation:

Depth of Surface Water: ______ (in.)
Depth to Free Water in Pit: ______ (in.)
Depth to Saturated Soil: ______ (in.)

Wetland Hydrology Indicators:

Primary Indicators:
___ Inundated
___ Saturated in Upper 12 inches
___ Water Marks
___ Drift Lines
___ Sediment Deposits
___ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
✓ Oxidized Root Channels in Upper 12 in. - faint/occasional
___ Water-Stained Leaves
___ Local Soil Survey Data
___ FAC-Neutral Test
___ Other (Explain in Remarks)

Remarks: located on gently sloping bench rising up from Point 12-5C to base of levee. No direct field evidence of OHW, except low topographic position

SOILS

Map Unit Name
(Series and Phase) Pits

Drainage Class:

Field Observations Confirm Mapped Type?
Yes [✓ No]

Taxonomy (Subgroup)

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-10"		7.5 YR 2.5/2	7.5YR 5/8	moderate-sparse / very small <1mm	Clayey sand

Hydric Soil Indicators:

- ______ Histosol
- ______ Histic Epipedon
- ______ Sulfidic Odor
- ______ Aquic Moisture Regime
- ______ Reducing Conditions
- +- Gleyed or Low-Chrome colors
- ______ Concretions
- ______ High Organic Content in Surface Layer in Sandy Soils
- ______ Organic Streaking in Sandy Soils
- ______ Listed on Local Hydric Soils List
- ______ Listed on National Hydric Soils List
- ______ Other (Explain in Remarks)

Remarks: Soil features remain constant to toe of slope (including ox. rhizosphere)

WETLAND DETERMINATION

(Circle)

Hydrophytic Vegetation Present? [✓ Yes] No
Wetland Hydrology Present? [✓ Yes] No
Hydric Soils Present? [✓ Yes] No

(Circle)
Is this Sampling Point Within a Wetland? [✓ Yes] No

Remarks: Determination based on vegetation and low topographic position. Area potentially slightly above OHW, vegetation here may be influenced by summer dams. Soils are borderline

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID: 12-5 C

Project/Site: Upper Guadalupe River Flood Control Project
Applicant/Owner: Santa Clara Valley Water District
Investigator: Gale Rankin

Date: 7/13/95
County: Santa Clara
State: California

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation?) Yes [✓ No]
Is the area a potential Problem Area? Yes [✓ No]
(If needed, explain on reverse.)

Community ID: Seasonal wetland/Emergent marsh

VEGETATION

Plant Species (*Indicates dominants)	Stratum	Indicator	Plant Species	Stratum	Indicator
* 1 Scirpus acutus	HERB	OBL	9		
* 2 Typha angustifolia	↓	OBL	10		
3 Xanthium strumarium	↓	FAC	11		
4 Polypogon monspeliensis	↓	FACW+	12		
5 Gnaphalium sp	↓	–	13		
6 Bromus diandrus	↓	UPL	14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100

Remarks: Typha in water. This vegetation may be the result of long-term annual inundation by summer dams

HYDROLOGY

✓ Recorded Data (Describe in Remarks):
  ✓ Stream, Lake, or Tide Gauge
  ☐ Aerial Photographs
  ☐ Other
☐ No Recorded Data Available

Field Observation:

Depth of Surface Water: ______(in.)
Depth to Free Water in Pit: ______(in.)
Depth to Saturated Soil: ______(in.)

Wetland Hydrology Indicators:

Primary Indicators:
☐ Inundated
☐ Saturated in Upper 12 inches
☐ Water Marks
☐ Drift Lines
☐ Sediment Deposits
✓ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
✓ Oxidized Root Channels in Upper 12 in. - a few on small roots
☐ Water-Stained Leaves
☐ Local Soil Survey Data
☐ FAC-Neutral Test
☐ Other (Explain in Remarks)

Remarks: at water's edge, within OHW - slight bench rises up to next level & different vegetation

SOILS

Map Unit Name (Series and Phase) Pub

Drainage Class: ____

Taxonomy (Subgroup) ____

Field Observations Confirm Mapped Type? Yes [✓ No]

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-10		7.5 YR 2.5/1	7.5YR 5/8	diffuse, very small	sandy clay

Hydric Soil Indicators:

- ____ Histosol
- ____ Histic Epipedon
- ____ Sulfidic Odor
- ✓ Aquic Moisture Regime
- ____ Reducing Conditions
- ✓ Gleyed or Low-Chrome colors
- ____ Concretions
- ____ High Organic Content in Surface Layer in Sandy Soils
- ____ Organic Streaking in Sandy Soils
- ____ Listed on Local Hydric Soils List
- ____ Listed on National Hydric Soils List
- ____ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

(Circle)

Hydrophytic Vegetation Present? [✓ Yes] No
Wetland Hydrology Present? [✓ Yes] No
Hydric Soils Present? [✓ Yes] No

(Circle)

Is this Sampling Point Within a Wetland? [✓ Yes] No

Remarks: see 12-3B

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID

D 6-A

Project/Site: Upper Guadalupe River Flood Control Project Applicant/Owner: Santa Clara Valley Water District Investigator: Gale Rankin	Date: 7/13/95 County: Santa Clara State: California
Do Normal Circumstances exist on the site? [✓ Yes] No Is the site significantly disturbed (Atypical Situation?) Yes [✓ No] Is the area a potential Problem Area? Yes [✓ No] (If needed, explain on reverse.)	Community ID: ruderal scrub

VEGETATION

Plant Species (*Indicates dominants)	Stratum	Indicator	Plant Species	Stratum	Indicator
* 1 Baccharis pilularis	S/S	UPL	9		
* 2 Rubus discolor	S/S	FACW	10		
* 3 Piptatherum miliaceum	HERB	UPL	11		
4			12		
5			13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 33

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

____ Recorded Data (Describe in Remarks):
- ____ Stream, Lake, or Tide Gauge
- ____ Aerial Photographs
- ____ Other

____ No Recorded Data Available

Field Observation:

Depth of Surface Water: ________(in.)

Depth to Free Water in Pit: ________(in.)

Depth to Saturated Soil: ________(in.)

Primary Indicators:
- ____ Inundated
- ____ Saturated in Upper 12 inches
- ____ Water Marks
- ____ Drift Lines
- ____ Sediment Deposits
- ____ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ____ Oxidized Root Channels in Upper 12 in.
- ____ Water-Stained Leaves
- ____ Local Soil Survey Data
- ____ FAC-Neutral Test
- ____ Other (Explain in Remarks)

Remarks:

Located on slope above OHW.

SOILS

Map Unit Name
(Series and Phase) PlB

Drainage Class:

Taxonomy (Subgroup)

Field Observations Confirm Mapped Type? Yes [✓ No]

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
4"		10 YR 3/2	none		

Hydric Soil Indicators:

- Histosol
- Histic Epipedon
- Sulfidic Odor
- Aquic Moisture Regime
- Reducing Conditions
- Gleyed or Low-Chrome colors
- Concretions
- High Organic Content in Surface Layer in Sandy Soils
- Organic Streaking in Sandy Soils
- Listed on Local Hydric Soils List
- Listed on National Hydric Soils List
- Other (Explain in Remarks)

Remarks: Dense packed, hard, stony. Could only dig 4"

WETLAND DETERMINATION

	(Circle)		(Circle)
Hydrophytic Vegetation Present?	Yes [✓ No]	Is this Sampling Point Within a Wetland?	Yes [✓ No]
Wetland Hydrology Present?	Yes [✓ No]		
Hydric Soils Present?	Yes [✓ No]		

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID 12-6-B

Project/Site: Upper Guadalupe River Flood Control Project
Applicant/Owner: Santa Clara Valley Water District
Investigator: Gale Rankin
Date: 7/13/95
County: Santa Clara
State: California

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation?) Yes [✓ No]
Is the area a potential Problem Area? [✓ Yes] No
(If needed, explain on reverse.)

Community ID: Seasonal wetland

VEGETATION

	Plant Species (*Indicates dominants)	Stratum	Indicator		Plant Species	Stratum	Indicator
* 1	Polypogon monspeliensis	HERB	FACW+	9			
* 2	Lolium multiflorum	↓	FAC	10			
3	Xanthium strumarium	↓	FAC	11			
4	Epilobium ciliatum var ciliatum	↓	FACW	12			
5	Cyperus sp.	↓	>FAC	13			
6	Melilotus indica	↓	FAC	14			
7				15			
8				16			

Percent of Dominant Species that are OBL, FACW or FAC 100
(excluding FAC-). 100

Remarks:

HYDROLOGY

✓ Recorded Data (Describe in Remarks):
- ✓ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☐ No Recorded Data Available

Field Observation:

Depth of Surface Water: ______(in.)

Depth to Free Water in Pit: ______(in.)

Depth to Saturated Soil: ______(in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☐ Inundated
- ☐ Saturated in Upper 12 inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ✓ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☐ Oxidized Root Channels in Upper 12 in.
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks: located below bank/levee slope, above slightly lower bench (see point C)
Presumed below OHW

SOILS

Map Unit Name
(Series and Phase) Pito

Drainage Class:

Field Observations Confirm Mapped Type?
Yes [✓ No]

Taxonomy (Subgroup)

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
2-10"		10YR 3/2	10YR 5/8	diffuse, >5mm moderate abundance	clayey sand
0-2"					sandy

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ✓ Aquic Moisture Regime
- ☐ Reducing Conditions
- ✓ Gleyed or Low-Chrome colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

	(Circle)
Hydrophytic Vegetation Present?	[✓ Yes] No
Wetland Hydrology Present?	[✓ Yes] No
Hydric Soils Present?	[✓ Yes] No

Is this Sampling Point Within a Wetland? (Circle) [✓ Yes] No

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID: 12-6 C

Project/Site: Upper Guadalupe River Flood Control Project	Date: 7/13/95
Applicant/Owner: Santa Clara Valley Water District	County: Santa Clara
Investigator: Gale Rankin	State: California
Do Normal Circumstances exist on the site? [✓ Yes] No Is the site significantly disturbed (Atypical Situation?) Yes [✓ No] Is the area a potential Problem Area? Yes [✓ No] (If needed, explain on reverse.)	Community ID: Seasonal wetland

VEGETATION

Plant Species (*Indicates dominants)	Stratum	Indicator	Plant Species	Stratum	Indicator
* 1 Polypogon monspeliensis	HERB	FACW+	9		
2 Melilotus indicus	↓	FAC	10		
3 Unk mulched groundcover	↓	–	11		
4 Xanthium strumarium	↓	FAC	12		
5 Veronica anagallis-aquatica	↓	OBL	13		
6 Epilobium ciliatum	↓	FACW	14		
7 Juncus bufonius	↓	FACW+	15		
8 Cyperus sp.	↓	?FAC	16		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

___ Recorded Data (Describe in Remarks): ___ Stream, Lake, or Tide Gauge ___ Aerial Photographs ___ Other ___ No Recorded Data Available	Primary Indicators: ___ Inundated ✓ Saturated in Upper 12 inches ___ Water Marks ___ Drift Lines ___ Sediment Deposits ___ Drainage Patterns in Wetlands
Field Observation: Depth of Surface Water: ___ (in.) Depth to Free Water in Pit: ___ (in.) Depth to Saturated Soil: 8" (in.) (water seeping in hole)	Secondary Indicators (2 or more required): ✓ Oxidized Root Channels in Upper 12 in., occasional ___ Water-Stained Leaves ___ Local Soil Survey Data ___ FAC-Neutral Test ___ Other (Explain in Remarks)

Remarks: located on leading edge of flat bench, at water's edge. Area is <6" above existing water level. within OHW

SOILS

Map Unit Name
(Series and Phase) Pits

Drainage Class:

Field Observations Confirm Mapped Type?
Yes [✓ No]

Taxonomy (Subgroup)

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-10"		10YR 2/2	7.5YR 5/8	Occasional/medium size	Clay & sand

Hydric Soil Indicators:

Histosol
Histic Epipedon
Sulfidic Odor
✓ Aquic Moisture Regime
Reducing Conditions
✓ (+ -) Gleyed or Low-Chrome colors

Concretions
High Organic Content in Surface Layer in Sandy Soils
Organic Streaking in Sandy Soils
Listed on Local Hydric Soils List
Listed on National Hydric Soils List
Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

(Circle)
Hydrophytic Vegetation Present? [✓ Yes] No
Wetland Hydrology Present? [✓ Yes] No
Hydric Soils Present? [✓ Yes] No

(Circle)
Is this Sampling Point Within a Wetland? [✓ Yes] No

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID: 12-7-A

Project/Site: Upper Guadalupe River Flood Control Project
Applicant/Owner: Santa Clara Valley Water District
Investigator: Gale Rankin

Date: 7/13/95
County: Santa Clara
State: California

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation?) Yes [✓ No]
Is the area a potential Problem Area? Yes [✓ No]
(If needed, explain on reverse.)

Community ID: Ruderal

VEGETATION

Plant Species (*Indicates dominants)	Stratum	Indicator	Plant Species	Stratum	Indicator
1 Epilobium brachycarpum	HERB	UPL	9		
2 Gnaphalium sp.	↓	–	10		
3 Plantago lanceolata		FAC-	11		
* 4 Piptatherum milliaceum		UPL	12		
5 Bromus catharticus		UPL	13		
* 6 Brassica rapa		UPL	14		
* 7 Baccharis salicifolia	S/S	FACW	15		
8			16		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 33

Remarks:

HYDROLOGY

____ Recorded Data (Describe in Remarks):
____ Stream, Lake, or Tide Gauge
____ Aerial Photographs
____ Other
____ No Recorded Data Available

Field Observation:

Depth of Surface Water: ____ (in.)
Depth to Free Water in Pit: ____ (in.)
Depth to Saturated Soil: ____ (in.)

Wetland Hydrology Indicators:

Primary Indicators:
____ Inundated
____ Saturated in Upper 12 inches
____ Water Marks
____ Drift Lines
____ Sediment Deposits
____ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
____ Oxidized Root Channels in Upper 12 in.
____ Water-Stained Leaves
____ Local Soil Survey Data
____ FAC-Neutral Test
____ Other (Explain in Remarks)

Remarks: No indicators observed. Point located on bank slope above channel bed and OHW

SOILS

Map Unit Name (Series and Phase) Pitb

Drainage Class:

Field Observations Confirm Mapped Type? Yes [✓ No]

Taxonomy (Subgroup)

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.

Hydric Soil Indicators:

- _____ Histosol
- _____ Histic Epipedon
- _____ Sulfidic Odor
- _____ Aquic Moisture Regime
- _____ Reducing Conditions
- _____ Gleyed or Low-Chrome colors
- _____ Concretions
- _____ High Organic Content in Surface Layer in Sandy Soils
- _____ Organic Streaking in Sandy Soils
- _____ Listed on Local Hydric Soils List
- _____ Listed on National Hydric Soils List
- _____ Other (Explain in Remarks)

Remarks: Extremely stony soils - could dig no further than 4 inches. Hard packed.

WETLAND DETERMINATION

	(Circle)
Hydrophytic Vegetation Present?	Yes [✓ No]
Wetland Hydrology Present?	Yes [✓ No]
Hydric Soils Present?	Yes [✓ No]

Is this Sampling Point Within a Wetland? (Circle) Yes [✓ No]

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID
12-7B

Project/Site: Upper Guadalupe River Flood Control Project Applicant/Owner: Santa Clara Valley Water District Investigator: Gale Rankin	Date: 7/13/95 County: Santa Clara State: California
Do Normal Circumstances exist on the site? [✓ Yes] No Is the site significantly disturbed (Atypical Situation?) Yes [✓ No] Is the area a potential Problem Area? Yes [✓ No] (If needed, explain on reverse.)	Community ID: Seasonal/Emergent wetland

VEGETATION

	Plant Species (*Indicates dominants)	Stratum	Indicator		Plant Species	Stratum	Indicator
1	Echinochloa crus-galli	HERB	FACW	9	Veronica anagallis-aquatica	HERB	OBL
* 2	Typha angustifolia		OBL	10	Poa annua		FACW
* 3	Polygonum lapathifolium		OBL	11	~~Epilobium~~		
4	Polygonum hydropiperoides		OBL	12	Cyperus sp		≥FAC
* 5	Melilotus albus		FACU+	13	Picris echioides		FAC
6	Epilobium ciliatum		FACW	14	Xanthium strumarium		FAC
7	Unk. inuleae		—	15	Lactuca serriola		FAC
8	Polypogon monspeliensis	↓	FACW+	16	Rorippa nasturtium-aquaticum	↓	OBL

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100

Remarks: Typha may be result of summer dams inundation

HYDROLOGY

Wetland Hydrology Indicators:

✓ Recorded Data (Describe in Remarks):
- ✓ Stream, Lake, or Tide Gauge
- ___ Aerial Photographs
- ✓ Other

___ No Recorded Data Available

Field Observation:

Depth of Surface Water: ______ (in.)

Depth to Free Water in Pit: 6" (in.)

Depth to Saturated Soil: 6" (in.)

Primary Indicators:
- ___ Inundated
- ✓ Saturated in Upper 12 inches
- ___ Water Marks
- ___ Drift Lines
- ___ Sediment Deposits
- ✓ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ✓ Oxidized Root Channels in Upper 12 in.
- ___ Water-Stained Leaves
- ___ Local Soil Survey Data
- ___ FAC-Neutral Test
- ___ Other (Explain in Remarks)

Remarks:
Area located at toe of slope in depression. Grading up to gravel bar on inside

SOILS

Map Unit Name
(Series and Phase) Pits

Drainage Class: ______

Field Observations Confirm Mapped Type? Yes [✓ No]

Taxonomy (Subgroup) ______

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
9"		10YR 3/1	5YR 5/8	unevenly distributed small-med (<1mm-4mm)	Sandy clay

Hydric Soil Indicators:

	Histosol		Concretions
	Histic Epipedon		High Organic Content in Surface Layer in Sandy Soils
	Sulfidic Odor		Organic Streaking in Sandy Soils
✓	Aquic Moisture Regime		Listed on Local Hydric Soils List
	Reducing Conditions		Listed on National Hydric Soils List
✓	Gleyed or Low-Chrome colors		Other (Explain in Remarks)

Remarks: Hit hard surface at 10"; can dig no further

WETLAND DETERMINATION

(Circle)

Hydrophytic Vegetation Present? [✓ Yes] No
Wetland Hydrology Present? [✓ Yes] No
Hydric Soils Present? [✓ Yes] No

(Circle)
Is this Sampling Point Within a Wetland? [✓ Yes] No

Remarks: see pt. 12-3B

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID
12-7C

Project/Site: Upper Guadalupe River Flood Control Project
Applicant/Owner: Santa Clara Valley Water District
Investigator: Gale Rankin

Date: 7/13/95
County: Santa Clara
State: California

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation?) Yes [✓ No]
Is the area a potential Problem Area? Yes [✓ No]
(If needed, explain on reverse.)

Community ID:
Gravel Bar

VEGETATION

Plant Species (*Indicates dominants)	Stratum	Indicator	Plant Species	Stratum	Indicator
1 Melilotus albus	HERB	FACU+	9		
2 Brassica Rapa	↓	UPL	10		
3 Centaurea solstitialis		UPL	11		
4 Raphanus sativus		UPL	12		
5			13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 0

Remarks: almost barren of vegetation.

HYDROLOGY

______ Recorded Data (Describe in Remarks):
______ Stream, Lake, or Tide Gauge
______ Aerial Photographs
______ Other
______ No Recorded Data Available

Field Observation:

Depth of Surface Water: ______(in.)

Depth to Free Water in Pit: ______(in.)

Depth to Saturated Soil: ______(in.)

Wetland Hydrology Indicators:

Primary Indicators:
______ Inundated
______ Saturated in Upper 12 inches
______ Water Marks
______ Drift Lines
______ Sediment Deposits
______ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
______ Oxidized Root Channels in Upper 12 in.
______ Water-Stained Leaves
______ Local Soil Survey Data
______ FAC-Neutral Test
______ Other (Explain in Remarks)

Remarks: Point located on gravel bar within OHW

SOILS

Map Unit Name
(Series and Phase) Pito
Drainage Class:
Field Observations Confirm Mapped Type? Yes [✓ No]
Taxonomy (Subgroup)

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
					gravel, cobbles, sand.

Hydric Soil Indicators:

- ____ Histosol
- ____ Histic Epipedon
- ____ Sulfidic Odor
- ____ Aquic Moisture Regime
- ____ Reducing Conditions
- ____ Gleyed or Low-Chrome colors
- ____ Concretions
- ____ High Organic Content in Surface Layer in Sandy Soils
- ____ Organic Streaking in Sandy Soils
- ____ Listed on Local Hydric Soils List
- ____ Listed on National Hydric Soils List
- ____ Other (Explain in Remarks)

Remarks: Can't "color type" gravels. Presume aquic moisture regime below OHW

WETLAND DETERMINATION

(Circle)
Hydrophytic Vegetation Present? Yes [✓ No]
Wetland Hydrology Present? [✓ Yes] No
Hydric Soils Present? [✓ Yes] No

(Circle)
Is this Sampling Point Within a Wetland? Yes [✓ No]

Remarks: Area is within OHW, but is a "tributary water", not a wetland

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID
12-7-D

Project/Site: Upper Guadalupe River Flood Control Project
Applicant/Owner: Santa Clara Valley Water District
Investigator: Gale Rankin

Date: 7/13/95
County: Santa Clara
State: California

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation?) Yes [✓ No]
Is the area a potential Problem Area? Yes [✓ No]
(If needed, explain on reverse.)

Community ID: Seasonal wetland/Emergent wetland

VEGETATION

Plant Species (*Indicates dominants)	Stratum	Indicator	Plant Species	Stratum	Indicator
* 1 Typha angustifolia	HERB	OBL	9 Rumex sp	HERB	FACW
2 Xanthium strumarium	↓	FAC	10 Veronica anagallis-aq.	↓	OBL
* 3 Epilobium lapathifolium	↓	OBL	11 Rorippa nasturtium-aquat.	↓	OBL
4 Epilobium hydropiperoides	↓	OBL	12 Poa annua	↓	FACW
5 Brassica rapa	↓	UPL	13		
* 6 Melilotus albus	↓	FACU+	14		
7 Cuscuta sp.	↓	–	15		
8 Gnaphalium sp.	↓	–	16		

Percent of Dominant Species that are OBL, FACW or FAC
(excluding FAC-). 66%

Remarks: Presence of typha may be due to past inundation by summer dams

HYDROLOGY

____ Recorded Data (Describe in Remarks):
____ Stream, Lake, or Tide Gauge
____ Aerial Photographs
____ Other
____ No Recorded Data Available

Field Observation:

Depth of Surface Water: ____ (in.)
Depth to Free Water in Pit: ____ (in.)
Depth to Saturated Soil: ____ (in.)

Wetland Hydrology Indicators:

Primary Indicators:
____ Inundated
____ Saturated in Upper 12 inches
____ Water Marks
____ Drift Lines
____ Sediment Deposits
____ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
____ Oxidized Root Channels in Upper 12 in.
____ Water-Stained Leaves
____ Local Soil Survey Data
____ FAC-Neutral Test
____ Other (Explain in Remarks)

Remarks: Located on edge of gravel bar, adjacent to water. Is below the OHW level - lower than top of bar by 6"-12". (Is 0-12" above H_2O). Bench step up to gravel bar top.

SOILS

Map Unit Name (Series and Phase) Pib

Drainage Class: ______

Taxonomy (Subgroup) /

Field Observations Confirm Mapped Type? Yes [✓ No]

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture,Concretions, Structure, etc.

Hydric Soil Indicators:

______ Histosol
______ Histic Epipedon
______ Sulfidic Odor
✓ Aquic Moisture Regime
______ Reducing Conditions
______ Gleyed or Low-Chrome colors

______ Concretions
______ High Organic Content in Surface Layer in Sandy Soils
______ Organic Streaking in Sandy Soils
______ Listed on Local Hydric Soils List
______ Listed on National Hydric Soils List
______ Other (Explain in Remarks)

Remarks: very stony soil, composed of gravels with fine sands interspersed. Could dig 2-4" only. Presume long-term inundation below OHW

WETLAND DETERMINATION

(Circle)

Hydrophytic Vegetation Present? [✓ Yes] No
Wetland Hydrology Present? [✓ Yes] No
Hydric Soils Present? [✓ Yes] No

(Circle)

Is this Sampling Point Within a Wetland? [✓ Yes] No

Remarks: see sheet 12-3B

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID

13-1A

oject/Site: Upper Guadalupe River Flood Control Project
Applicant/Owner: Santa Clara Valley Water District
vestigator: Gale Rankin

Date: 8/16/95
County: Santa Clara
State: California

Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation?) Yes [✓ No]
the area a potential Problem Area? Yes [✓ No]
(If needed, explain on reverse.)

Community ID: Ruderal / Grassland

EGETATION

nt Species (*Indicates dominants)	Stratum	Indicator	Plant Species	Stratum	Indicator
1 Avena fatua	HERB	UPL	9		
2 Cynodon dactylon	FAC	FAC	10		
3			11		
4			12		
			13		
6			14		
			15		
8			16		

Percent of Dominant Species that are OBL, FACW or FAC
cluding FAC-). 50

Remarks:

YDROLOGY

Wetland Hydrology Indicators:

____ Recorded Data (Describe in Remarks):
 ____ Stream, Lake, or Tide Gauge
 ____ Aerial Photographs
 ____ Other
____ No Recorded Data Available

Field Observation:

Depth of Surface Water: ____ (in.)

Depth to Free Water in Pit: ____ (in.)

Depth to Saturated Soil: ____ (in.)

Primary Indicators:
 ____ Inundated
 ____ Saturated in Upper 12 inches
 ____ Water Marks
 ____ Drift Lines
 ____ Sediment Deposits
 ____ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
 ____ Oxidized Root Channels in Upper 12 in.
 ____ Water-Stained Leaves
 ____ Local Soil Survey Data
 ____ FAC-Neutral Test
 ____ Other (Explain in Remarks)

emarks: No indicators seen. Is on small berm slope, above bench and just below gravel access road.

SOILS

Map Unit Name
(Series and Phase) Garretson gravelly loam

Drainage Class: ____

Field Observations Confirm Mapped Type? Yes [✓ No]

Taxonomy (Subgroup) ____

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.

Hydric Soil Indicators:

____ Histosol
____ Histic Epipedon
____ Sulfidic Odor
____ Aquic Moisture Regime
____ Reducing Conditions
____ Gleyed or Low-Chrome colors

____ Concretions
____ High Organic Content in Surface Layer in Sandy Soils
____ Organic Streaking in Sandy Soils
____ Listed on Local Hydric Soils List
____ Listed on National Hydric Soils List
____ Other (Explain in Remarks)

Remarks: Soils very stony and compacted. There may be fill associated with gravel road bed.

WETLAND DETERMINATION

	(Circle)
Hydrophytic Vegetation Present?	Yes [✓ No]
Wetland Hydrology Present?	Yes [✓ No]
Hydric Soils Present?	Yes [✓ No]

Is this Sampling Point Within a Wetland? (Circle) Yes [✓ No]

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID

13-1B

Project/Site: Upper Guadalupe River Flood Control Project
Applicant/Owner: Santa Clara Valley Water District
Investigator: Gale Rankin

Date: 8/16/95
County: Santa Clara
State: California

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation?) Yes [✓ No]
Is the area a potential Problem Area? [✓ Yes] No
(If needed, explain on reverse.)

Community ID:
Seasonal wetland

VEGETATION

Plant Species (*Indicates dominants)	Stratum	Indicator	Plant Species	Stratum	Indicator
* 1 Paspalum dilatatum	HERB	FAC	9		
2 Brassica rapa		UPL	10		
3 Euthamia occidentalis		OBL	11		
* 4 Cynodon dactylon		FAC	12		
* 5 Agrostis stolonifera		FACW	13		
6 Rumex crispus		FACW-	14		
7 Cyperus eragrostis	↓	FACW	15		
8			16		

Percent of Dominant Species that are OBL, FACW or FAC
(excluding FAC-). 100

Remarks: Elsewhere on this bench are Lolium multiflorum (FAC), Xanthium strumarium (FAC), Melilotus albus (FACU, not common, except in one area), Plantago lanceolata (FAC), Lepidium latifolium (FACW), Polypogon mon. (FAC) Baccharis salicifolia (FACW). The only UPL species seen was a very small bit of Bromus catharticus & Bromus rigid. The lower areas bordering channels support Typha, Scirpus? Ludwigia.

HYDROLOGY

Wetland Hydrology Indicators:

_____ Recorded Data (Describe in Remarks):
_____ Stream, Lake, or Tide Gauge
_____ Aerial Photographs
_____ Other
_____ No Recorded Data Available

Field Observation:

Depth of Surface Water: _____(in.)
Depth to Free Water in Pit: _____(in.)
Depth to Saturated Soil: _____(in.)

Primary Indicators:
_____ Inundated
_____ Saturated in Upper 12 inches
_____ Water Marks
_____ Drift Lines
_____ Sediment Deposits
_____ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
✓ Oxidized Root Channels in Upper 12 in. (in sandy soil, also small mottles in upper 3")
_____ Water-Stained Leaves
_____ Local Soil Survey Data
✓ FAC-Neutral Test
✓ Other (Explain in Remarks)

Remarks: high & dry at time of survey. The point is on a large bench, located above well defined low-flow channels. Numerous gentle meander paths (vegetated with grass) give it a hummocky topography. This is the lowest bench on reach 13, all others are dominated by UPL sp. Presume within OHW (just barely) - water overtops low-flow channel and slowly disperses across bench.

SOILS

Map Unit Name
(Series and Phase) Garretson gravelly loam

Drainage Class: ____

Field Observations Confirm Mapped Type?
Yes [✓ No]

Taxonomy (Subgroup) ____

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
					Cobbles with collected sediments right
					at sample point. The soils in
					nearby area were sandy (the ox.
					rhizosphere was seen in these)

Hydric Soil Indicators:

____ Histosol
____ Histic Epipedon
____ Sulfidic Odor
____ Aquic Moisture Regime
____ Reducing Conditions
____ Gleyed or Low-Chrome colors
____ Concretions
____ High Organic Content in Surface Layer in Sandy Soils
____ Organic Streaking in Sandy Soils
____ Listed on Local Hydric Soils List
____ Listed on National Hydric Soils List
____ Other (Explain in Remarks)

Remarks: Hard-packed cobbles - no pit could be dug. Presume aquic moisture regime within OHW

WETLAND DETERMINATION

(Circle)
Hydrophytic Vegetation Present? [✓ Yes] No
Wetland Hydrology Present? [✓ Yes] No
Hydric Soils Present? [✓ Yes] No

(Circle)
Is this Sampling Point Within a Wetland? [✓ Yes] No

Remarks: Vegetation strongly relied-upon in this instance. The dominance on the bench of several perennial hydrophytes indicates wetland conditions are likely the norm here.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID: 13-2-A

Project/Site: Upper Guadalupe River Flood Control Project
Applicant/Owner: Santa Clara Valley Water District
Investigator: Gale Rankin

Date: 8-15/95
County: Santa Clara
State: California

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation?) Yes [✓ No]
Is the area a potential Problem Area? [✓ Yes] No
(If needed, explain on reverse.)

Community ID: Ruderal

VEGETATION

Plant Species (*Indicates dominants)	Stratum	Indicator	Plant Species	Stratum	Indicator
1 Melilotus albus	Herb	FACU	9		
Paspalum dilatatum	↓	FAC	10		
3 Xanthium strumarium		FAC	11		
4 Rubus discolor		FACW	12		
5 Cynodon dactylon		FAC	13		
6			14		
			15		
8			16		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 0

Remarks: Wetland (FAC) species are in understory. Overstory Vegetation extremely dense. Growth of wetland species was probably enhanced by unusually wet rainy season/high flows.

HYDROLOGY

_____ Recorded Data (Describe in Remarks):
_____ Stream, Lake, or Tide Gauge
_____ Aerial Photographs
_____ Other
_____ No Recorded Data Available

Field Observation:

Depth of Surface Water: _____ (in.)
Depth to Free Water in Pit: _____ (in.)
Depth to Saturated Soil: _____ (in.)

Wetland Hydrology Indicators:

Primary Indicators:
_____ Inundated
_____ Saturated in Upper 12 inches
_____ Water Marks
_____ Drift Lines
_____ Sediment Deposits
_____ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
_____ Oxidized Root Channels in Upper 12 in.
_____ Water-Stained Leaves
_____ Local Soil Survey Data
_____ FAC-Neutral Test
_____ Other (Explain in Remarks)

Remarks:
This point is located higher on the bench than point 13-2B however there is no definite topographic break between the two areas. No indicators of wetland hydrology seen.

SOILS

Map Unit Name
(Series and Phase) Garretson gravelly loam

Drainage Class: ____________________

Field Observations Confirm Mapped Type?
Yes [✓ No]

Taxonomy (Subgroup) ____________________

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.

Hydric Soil Indicators:

- ____ Histosol
- ____ Histic Epipedon
- ____ Sulfidic Odor
- ____ Aquic Moisture Regime
- ____ Reducing Conditions
- ____ Gleyed or Low-Chrome colors
- ____ Concretions
- ____ High Organic Content in Surface Layer in Sandy Soils
- ____ Organic Streaking in Sandy Soils
- ____ Listed on Local Hydric Soils List
- ____ Listed on National Hydric Soils List
- ____ Other (Explain in Remarks)

Remarks: Presumed to be above OHW - no field indicators seen.

WETLAND DETERMINATION

(Circle)

Hydrophytic Vegetation Present? Yes [✓ No]
Wetland Hydrology Present? Yes [✓ No]
Hydric Soils Present? Yes [✓ No]

(Circle)
Is this Sampling Point Within a Wetland? Yes [✓ No]

Remarks: Vegetation slightly higher on the bench changes dramatically - it consists only of UPL species and no melilotus. Dominants include Avena fatua and Piptatherum miliaceum. This area is somewhat transitional, and probably supports more wetland veg this year due to high rainfall.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID: 13-2B - just DS of drop structure

Project/Site: Upper Guadalupe River Flood Control Project
Applicant/Owner: Santa Clara Valley Water District
Investigator: Gale Rankin

Date: 8/16/95
County: Santa Clara
State: California

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation?) Yes [✓ No]
Is the area a potential Problem Area? Yes [✓ No]
(If needed, explain on reverse.)

Community ID: Seasonal wetland

VEGETATION

Plant Species (*Indicates dominants)	Stratum	Indicator	Plant Species	Stratum	Indicator
1 Ludwigia peploides	HERB	OBL	9 Polypogon monspeliensis	HERB	FACW+
2 Paspalum dilatatum		FAC	10		
3 Cyperus eragrostis		FACW	11		
4 Rumex crispus		FACW	12		
5 Cynodon dactylon		FAC	13		
6 Polygonum hydropiperoides		OBL	14		
7 Xanthium strumarium		FAC	15		
8 Melilotus albus		FACU	16		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

_______ Recorded Data (Describe in Remarks):
- _______ Stream, Lake, or Tide Gauge
- _______ Aerial Photographs
- _______ Other

_______ No Recorded Data Available

Primary Indicators:
- ✓ Inundated
- ✓ Saturated in Upper 12 inches
- _______ Water Marks
- _______ Drift Lines
- _______ Sediment Deposits
- _______ Drainage Patterns in Wetlands

Field Observation:

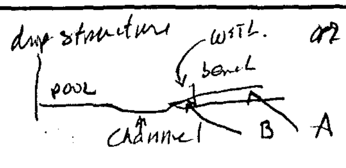
Depth of Surface Water: _______ (in.)

Depth to Free Water in Pit: _______ (in.)

Depth to Saturated Soil: _______ (in.)

Secondary Indicators (2 or more required):
- _______ Oxidized Root Channels in Upper 12 in.
- _______ Water-Stained Leaves
- _______ Local Soil Survey Data
- _______ FAC-Neutral Test
- _______ Other (Explain in Remarks)

Remarks: Site located on edge of low flow channel - lower end inundated, upper is dry - The portions above the low flow channel are on a bench the grades gently upward with no obvious upward indicators of OHW. Presume H2O spills over from channel onto leading edge of this bench or saturates soils by capillary action.



SCVWD

SOILS

Map Unit Name
(Series and Phase) Garretson gravelly loam

Drainage Class:

Field Observations Confirm Mapped Type?
Yes No

Taxonomy (Subgroup)

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.

Hydric Soil Indicators:

Histosol
Histic Epipedon
Sulfidic Odor
✓ Aquic Moisture Regime
Reducing Conditions
Gleyed or Low-Chrome colors

Concretions
High Organic Content in Surface Layer in Sandy Soils
Organic Streaking in Sandy Soils
Listed on Local Hydric Soils List
Listed on National Hydric Soils List
Other (Explain in Remarks)

Remarks: Soil are gravel and cobble, too hard to dig. Presume aquic moisture regime below OHW

WETLAND DETERMINATION

	(Circle)
Hydrophytic Vegetation Present?	[✓ Yes] No
Wetland Hydrology Present?	[✓ Yes] No
Hydric Soils Present?	[✓ Yes] No

Is this Sampling Point Within a Wetland? (Circle) [✓ Yes] No

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID: 13-3A

roject/Site: Upper Guadalupe River Flood Control Project
Applicant/Owner: Santa Clara Valley Water District
Investigator: Gale Rankin

Date: 8/26/98
County: Santa Clara
State: California

o Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation?) [✓ Yes] No
the area a potential Problem Area? Yes [✓ No]
(If needed, explain on reverse.)

Community ID: Riparian forest

VEGETATION

	ant Species (*Indicates dominants)	Stratum	Indicator		Plant Species	Stratum	Indicator
	* Salix laevigata	Tree	FACW	9			
	Rubus discolor	S/S	FACW	10			
	Piptatherum miliaceum	HERB	UPL	11			
4	Cupressus sp.	TREE	UPL	12			
				13			
6				14			
				15			
				16			

Percent of Dominant Species that are OBL, FACW or FAC
xcluding FAC-).

Remarks:

IYDROLOGY

Wetland Hydrology Indicators:

____ Recorded Data (Describe in Remarks):
____ Stream, Lake, or Tide Gauge
____ Aerial Photographs
____ Other
____ No Recorded Data Available

Field Observation:

Depth of Surface Water: 12 (in.) (est.)
Depth to Free Water in Pit: ____ (in.)
Depth to Saturated Soil: ____ (in.)

Primary Indicators:
✓ Inundated (Partially)
____ Saturated in Upper 12 inches
____ Water Marks
____ Drift Lines
____ Sediment Deposits
____ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
____ Oxidized Root Channels in Upper 12 in.
____ Water-Stained Leaves
____ Local Soil Survey Data
____ FAC-Neutral Test
____ Other (Explain in Remarks)

emarks:

SOILS

Map Unit Name
(Series and Phase) Garretson gravelly loam

Drainage Class: ____

Field Observations Confirm Mapped Type? Yes [✓ No]

Taxonomy (Subgroup) ____

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.

Hydric Soil Indicators:

- ____ Histosol
- ____ Histic Epipedon
- ____ Sulfidic Odor
- ____ Aquic Moisture Regime
- ____ Reducing Conditions
- ____ Gleyed or Low-Chrome colors
- ____ Concretions
- ____ High Organic Content in Surface Layer in Sandy Soils
- ____ Organic Streaking in Sandy Soils
- ____ Listed on Local Hydric Soils List
- ____ Listed on National Hydric Soils List
- ____ Other (Explain in Remarks)

Remarks: partially inundated. Currently experiencing aquic moisture regime, however this is not the usual condition.

WETLAND DETERMINATION

(Circle)

Hydrophytic Vegetation Present? [✓ Yes] No

Wetland Hydrology Present? Yes [✓ No] *

Hydric Soils Present? Yes [✓ No] *

(Circle)

Is this Sampling Point Within a Wetland? Yes [✓ No]

Remarks: Site is completely inundated, but this is an atypical situation (see remarks sheet 13-3B). Salix is a phreatophyte, therefore not indicative of wetland conditions. Under normal conditions there would be no wetland soils vegetation or hydrology here.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID: 13-3B

Project/Site: Upper Guadalupe River Flood Control Project
Applicant/Owner: Santa Clara Valley Water District
Investigator: Gale Rankin

Date: 8/26/95
County: Santa Clara
State: California

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation?) [✓ Yes] No
Is the area a potential Problem Area? [✓ Yes] No
(If needed, explain on reverse.)

Community ID: Seasonal/Emergent wetland

VEGETATION

Plant Species (*Indicates dominants)	Stratum	Indicator	Plant Species	Stratum	Indicator
*1 Ludwigia peploides	HERB	OBL	9		
2 Typha angustifolia		OBL	10		
3			11		
4			12		
5			13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100

Remarks:

HYDROLOGY

____ Recorded Data (Describe in Remarks):
- ____ Stream, Lake, or Tide Gauge
- ____ Aerial Photographs
- ____ Other

____ No Recorded Data Available

Field Observation:

Depth of Surface Water: 12-24" (est) (in.)

Depth to Free Water in Pit: ____ (in.)

Depth to Saturated Soil: ____ (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ✓ Inundated
- ____ Saturated in Upper 12 inches
- ____ Water Marks
- ____ Drift Lines
- ____ Sediment Deposits
- ____ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ____ Oxidized Root Channels in Upper 12 in.
- ____ Water-Stained Leaves
- ____ Local Soil Survey Data
- ____ FAC-Neutral Test
- ____ Other (Explain in Remarks)

Remarks: Currently artificially inundated by flashboard dam installation. Area is presumed to be below OHW, regardless (see remarks at end).

SOILS

Map Unit Name (Series and Phase) Garretson gravelly loam

Drainage Class:

Field Observations Confirm Mapped Type? Yes [✓ No]

Taxonomy (Subgroup)

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ✓ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low-Chrome colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks: Presumed within OHW, subject to regular long term inundation

WETLAND DETERMINATION

(Circle)

Hydrophytic Vegetation Present? [✓ Yes] No

Wetland Hydrology Present? [✓ Yes] No

Hydric Soils Present? [✓ Yes] No

(Circle)

Is this Sampling Point Within a Wetland? [✓ Yes] No

Remarks: This area is ponded due to the temporary installation of a flashboard dam just downstream. This is an abnormal circumstance. The prevalence of Ludwigia, and the distribution of seasonal wetlands is undoubtedly different than would exist if the dam were not in. The limits of OHW were determined on a very gross level, assuming that trees on the banks and central island would be outside the usual OHW boundaries. (OHW limits were probably overestimated). All other areas within the pond are presumed to be within the usual boundaries of OHW. All currently vegetated areas within OHW were mapped as wetlands.

SCVWD

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID
Ross 1A

Project/Site: Upper Guadalupe River Flood Control Project
Applicant/Owner: Santa Clara Valley Water District
Investigator: Gale Rankin

Date: 7/14/95
County: Santa Clara
State: California

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation?) Yes [✓ No]
Is the area a potential Problem Area? Yes [✓ No]
(If needed, explain on reverse.)

Community ID: ruderal

VEGETATION

Plant Species (*Indicates dominants)	Stratum	Indicator	Plant Species	Stratum	Indicator
1 Raphanus sativus	HERB	UPL	9		
2 Bromus catharticus	│	UPL	10		
3 Avena fatua	↓	UPL	11		
4			12		
5			13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 0

Remarks:

HYDROLOGY

____ Recorded Data (Describe in Remarks):
____ Stream, Lake, or Tide Gauge
____ Aerial Photographs
____ Other
____ No Recorded Data Available

Field Observation:

Depth of Surface Water: ____ (in.)

Depth to Free Water in Pit: ____ (in.)

Depth to Saturated Soil: ____ (in.)

Wetland Hydrology Indicators:

Primary Indicators:
____ Inundated
____ Saturated in Upper 12 inches
____ Water Marks
____ Drift Lines
____ Sediment Deposits
____ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
____ Oxidized Root Channels in Upper 12 in.
____ Water-Stained Leaves
____ Local Soil Survey Data
____ FAC-Neutral Test
____ Other (Explain in Remarks)

Remarks: ON SLOPE ABOVE OHW

SOILS

Map Unit Name
(Series and Phase) Campbell silty Clay

Drainage Class: ____________________

Field Observations Confirm Mapped Type?
Yes [✓ No]

Taxonomy (Subgroup) ____________________

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture,Concretions, Structure, etc.

Hydric Soil Indicators:

- ______ Histosol
- ______ Histic Epipedon
- ______ Sulfidic Odor
- ______ Aquic Moisture Regime
- ______ Reducing Conditions
- ______ Gleyed or Low-Chrome colors
- ______ Concretions
- ______ High Organic Content in Surface Layer in Sandy Soils
- ______ Organic Streaking in Sandy Soils
- ______ Listed on Local Hydric Soils List
- ______ Listed on National Hydric Soils List
- ______ Other (Explain in Remarks)

Remarks: Consists of surface soils (shallow) collected over rock protected slope

WETLAND DETERMINATION

	(Circle)
Hydrophytic Vegetation Present?	Yes [✓ No]
Wetland Hydrology Present?	Yes [✓ No]
Hydric Soils Present?	Yes [✓ No]

Is this Sampling Point Within a Wetland? (Circle) Yes [✓ No]

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID: Ross 1B

Project/Site: Upper Guadalupe River Flood Control Project
Applicant/Owner: Santa Clara Valley Water District
Investigator: Gale Rankin

Date: 7/14/95
County: Santa Clara
State: California

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation?) Yes [✓ No]
Is the area a potential Problem Area? Yes [✓ No]
(If needed, explain on reverse.)

Community ID: Seasonal Wetland

VEGETATION

Plant Species (*Indicates dominants)	Stratum	Indicator	Plant Species	Stratum	Indicator
*1 Echinochloa crus-galli	HERB	FACW	9 Cynodon dactylon	HERB	FAC
2 Polygonum hydropiperoides	↓	OBL	10 Amaranthus retroflexus	↓	FACU
3 Picris echioides	↓	FAC	11		
4 Anagallis arvensis	↓	UPL	12		
5 Cyperus eragrostis	↓	FACW	13		
6 Xanthium strumarium	↓	FAC	14		
7 Kickxia spuria	↓	UPL	15		
8 Melilotus albus	↓	FACU+	16		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100

Remarks:

HYDROLOGY

✓ Recorded Data (Describe in Remarks):
___ Stream, Lake, or Tide Gauge
___ Aerial Photographs
___ Other
___ No Recorded Data Available

Field Observation:

Depth of Surface Water: ______ (in.)
Depth to Free Water in Pit: ______ (in.)
Depth to Saturated Soil: ______ (in.)

Wetland Hydrology Indicators:

Primary Indicators:
___ Inundated
___ Saturated in Upper 12 inches
___ Water Marks
___ Drift Lines
___ Sediment Deposits
✓ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
___ Oxidized Root Channels in Upper 12 in.
___ Water-Stained Leaves
___ Local Soil Survey Data
___ FAC-Neutral Test
___ Other (Explain in Remarks)

Remarks: situated in bed of channel, below level of scouring banks. IS below OHW

SOILS

Map Unit Name
(Series and Phase) Campbell silty clay

Drainage Class: ____

Field Observations Confirm Mapped Type?
Yes [✓ No]

Taxonomy (Subgroup) ____

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
surface					scattered rocks & gravel
to 8"		7.5 YR 3/2			Sandy clay
8"					Stony layer - can't dig

Hydric Soil Indicators:

___ Histosol
___ Histic Epipedon
___ Sulfidic Odor
✓ Aquic Moisture Regime
___ Reducing Conditions
___ Gleyed or Low-Chrome colors
___ Concretions
___ High Organic Content in Surface Layer in Sandy Soils
___ Organic Streaking in Sandy Soils
___ Listed on Local Hydric Soils List
___ Listed on National Hydric Soils List
___ Other (Explain in Remarks)

Remarks: soil moist, Presume long-term inundation below OHW

WETLAND DETERMINATION

(Circle)

Hydrophytic Vegetation Present? [✓ Yes] No
Wetland Hydrology Present? [✓ Yes] No
Hydric Soils Present? [✓ Yes] No

Is this Sampling Point Within a Wetland? (Circle) [✓ Yes] No

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID
Ross 2A

Project/Site: Upper Guadalupe River Flood Control Project
Applicant/Owner: Santa Clara Valley Water District
Investigator: Gale Rankin

Date: 7/19/95
County: Santa Clara
State: California

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation?) Yes [✓ No]
Is the area a potential Problem Area? Yes [✓ No]
(If needed, explain on reverse.)

Community ID:
Ruderal

VEGETATION

Plant Species (*Indicates dominants)	Stratum	Indicator	Plant Species	Stratum	Indicator
* 1 Bromus diandrus	Herbs	UPL	9		
* 2 Raphanus sativus	↓	UPL	10		
3 Lolium multiflorum		FAC	11		
4			12		
5			13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW or FAC
(excluding FAC-). 0

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

______ Recorded Data (Describe in Remarks):
______ Stream, Lake, or Tide Gauge
______ Aerial Photographs
______ Other
______ No Recorded Data Available

Field Observation:

Depth of Surface Water: ______(in.)

Depth to Free Water in Pit: ______(in.)

Depth to Saturated Soil: ______(in.)

Primary Indicators:
______ Inundated
______ Saturated in Upper 12 inches
______ Water Marks
______ Drift Lines
______ Sediment Deposits
______ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
______ Oxidized Root Channels in Upper 12 in.
______ Water-Stained Leaves
______ Local Soil Survey Data
______ FAC-Neutral Test
______ Other (Explain in Remarks)

Remarks: Located on rock protected slope of excavated channel.

SOILS

Map Unit Name (Series and Phase) Yolo silty clay loam

Drainage Class: ____

Field Observations Confirm Mapped Type? Yes [✓ No]

Taxonomy (Subgroup) ____

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.

Hydric Soil Indicators:

____ Histosol
____ Histic Epipedon
____ Sulfidic Odor
____ Aquic Moisture Regime
____ Reducing Conditions
____ Gleyed or Low-Chrome colors

____ Concretions
____ High Organic Content in Surface Layer in Sandy Soils
____ Organic Streaking in Sandy Soils
____ Listed on Local Hydric Soils List
____ Listed on National Hydric Soils List
____ Other (Explain in Remarks)

Remarks: couldn't dig pit - hard packed soils, rock protected.

WETLAND DETERMINATION

	(Circle)
Hydrophytic Vegetation Present?	Yes [✓ No]
Wetland Hydrology Present?	Yes [✓ No]
Hydric Soils Present?	Yes [✓ No]

Is this Sampling Point Within a Wetland? (Circle) Yes [✓ No]

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID
Pos 2 B

Project/Site: Upper Guadalupe River Flood Control Project
Applicant/Owner: Santa Clara Valley Water District
Investigator: Gale Rankin

Date: 7/15/95
County: Santa Clara
State: California

Do Normal Circumstances exist on the site? Yes No
Is the site significantly disturbed (Atypical Situation?) Yes No
Is the area a potential Problem Area? Yes No
(If needed, explain on reverse.)

Community ID:
Seasonal wetland

VEGETATION

Plant Species (*Indicates dominants)	Stratum	Indicator	Plant Species	Stratum	Indicator
* 1 Echinochloa crus-galli	HERB	FACW	9 Xanthium strumarium	HERB	FAC
2 Polygonum hydropiperoides	↓	OBL	10 Raphanus sativus	↓	UPL
3 Polygonum lapathifolium	↓	OBL	11 Unk (yellow)	↓	—
4 Cynodon dactylon	↓	FAC	12		
5 Amaranthus retroflexus	↓	FACU	13		
6 Picris echioides	↓	FAC	14		
7 Lolium multiflorum	↓	FAC	15		
8 Polygonum arenastrum	↓	FAC	16		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100

Remarks:

HYDROLOGY

✓ Recorded Data (Describe in Remarks):
- ✓ Stream, Lake, or Tide Gauge
- ___ Aerial Photographs
- ___ Other

___ No Recorded Data Available

Field Observation:

Depth of Surface Water: 0-6" (in.)

Depth to Free Water in Pit: ___ (in.)

Depth to Saturated Soil: ___ (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ✓ Inundated
- ___ Saturated in Upper 12 inches
- ___ Water Marks
- ___ Drift Lines
- ___ Sediment Deposits
- ✓ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ___ Oxidized Root Channels in Upper 12 in.
- ___ Water-Stained Leaves
- ___ Local Soil Survey Data
- ___ FAC-Neutral Test
- ___ Other (Explain in Remarks)

Remarks: Located in channel bed.

SOILS

Map Unit Name
(Series and Phase) Yolo silty clay loam

Drainage Class:

Field Observations Confirm Mapped Type?
Yes [✓ No]

Taxonomy (Subgroup)

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ✓ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low-Chrome colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

(Circle)
Hydrophytic Vegetation Present? [✓ Yes] No
Wetland Hydrology Present? [✓ Yes] No
Hydric Soils Present? [✓ Yes] No

(Circle)
Is this Sampling Point Within a Wetland? [✓ Yes] No

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID
Ross 3-A

Project/Site: Upper Guadalupe River Flood Control Project
Applicant/Owner: Santa Clara Valley Water District
Investigator: Gale Rankin

Date: 7/14/95
County: Santa Clara
State: California

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation?) Yes [✓ No]
Is the area a potential Problem Area? Yes [✓ No]
(If needed, explain on reverse.)

Community ID:
Ruderal

VEGETATION

Plant Species (*Indicates dominants)	Stratum	Indicator	Plant Species	Stratum	Indicator
* 1 Lolium multiflorum	HERB	FAC	9		
2 Raphanus sativus		UPL	10		
* 3 Avena fatua		UPL	11		
4 Lactuca serriola		FAC	12		
5			13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 50

Remarks:

HYDROLOGY

✓ Recorded Data (Describe in Remarks):
☐ Stream, Lake, or Tide Gauge
☐ Aerial Photographs
☐ Other
☐ No Recorded Data Available

Field Observation:

Depth of Surface Water: ______ (in.)

Depth to Free Water in Pit: ______ (in.)

Depth to Saturated Soil: ______ (in.)

Wetland Hydrology Indicators:

Primary Indicators:
☐ Inundated
☐ Saturated in Upper 12 inches
☐ Water Marks
☐ Drift Lines
☐ Sediment Deposits
☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
☐ Oxidized Root Channels in Upper 12 in.
☐ Water-Stained Leaves
☐ Local Soil Survey Data
☐ FAC-Neutral Test
☐ Other (Explain in Remarks)

Remarks: Point located on sloping bank of excavated channel, above all signs of scour. No field indicators of hydrology observed.

SOILS

Map Unit Name
(Series and Phase) Zamora Clay loam 0-2% slopes

Drainage Class: ____________

Field Observations Confirm Mapped Type?
Yes No

Taxonomy (Subgroup) ____________

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-5"		7.5YR 3/2			Clayey sand

Hydric Soil Indicators:

- ______ Histosol
- ______ Histic Epipedon
- ______ Sulfidic Odor
- ______ Aquic Moisture Regime
- ______ Reducing Conditions
- ______ Gleyed or Low-Chrome colors
- ______ Concretions
- ______ High Organic Content in Surface Layer in Sandy Soils
- ______ Organic Streaking in Sandy Soils
- ______ Listed on Local Hydric Soils List
- ______ Listed on National Hydric Soils List
- ______ Other (Explain in Remarks)

Remarks: hit hard surface at 5" below top-soils may have collected over rock or concrete installation.

WETLAND DETERMINATION

(Circle)
Hydrophytic Vegetation Present? Yes [✓ No]
Wetland Hydrology Present? Yes [✓ No]
Hydric Soils Present? Yes [✓ No]

(Circle)
Is this Sampling Point Within a Wetland? Yes [✓ No]

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Sample ID: Ross 3B

Project/Site: Upper Guadalupe River Flood Control Project
Applicant/Owner: Santa Clara Valley Water District
Investigator: Gale Rankin

Date: 7/14/95
County: Santa Clara
State: California

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation?) Yes [✓ No]
Is the area a potential Problem Area? Yes [✓ No]
(If needed, explain on reverse.)

Community ID: Seasonal Wetland

VEGETATION

Plant Species (*Indicates dominants)	Stratum	Indicator	Plant Species	Stratum	Indicator
1 Polygonum lapathifolium	HERB	OBL	9		
2 Picris echioides		FAC	10		
3 Polygonum hydropiperoides		OBL	11		
4 Lactuca serriola		FAC	12		
* 5 Echinochloa crus-galli		FACW	13		
6 Lolium multiflorum		FAC	14		
* 7 Cynodon dactylon		FAC	15		
8 unk succulent	↓	–	16		

Percent of Dominant Species that are OBL, FACW or FAC
(excluding FAC-). 100

Remarks:

HYDROLOGY

✓ Recorded Data (Describe in Remarks):
- ✓ Stream, Lake, or Tide Gauge
- ___ Aerial Photographs
- ___ Other

___ No Recorded Data Available

Field Observation:

Depth of Surface Water: 0.8" (in.)
Depth to Free Water in Pit: not dug (in.)
Depth to Saturated Soil: ______ (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ✓ Inundated
- ✓ Saturated in Upper 12 inches
- ___ Water Marks
- ___ Drift Lines
- ___ Sediment Deposits
- ___ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ___ Oxidized Root Channels in Upper 12 in.
- ___ Water-Stained Leaves
- ___ Local Soil Survey Data
- ___ FAC-Neutral Test
- ___ Other (Explain in Remarks)

Remarks:
water flowing through low-flow channel

SOILS

Map Unit Name
(Series and Phase) Zamora clay loam, 0-2% slopes

Drainage Class: ________

Field Observations Confirm Mapped Type?
Yes [✓ No]

Taxonomy (Subgroup) ________

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.

Hydric Soil Indicators:

____ Histosol
____ Histic Epipedon
____ Sulfidic Odor
✓ Aquic Moisture Regime
____ Reducing Conditions
____ Gleyed or Low-Chrome colors

____ Concretions
____ High Organic Content in Surface Layer in Sandy Soils
____ Organic Streaking in Sandy Soils
____ Listed on Local Hydric Soils List
____ Listed on National Hydric Soils List
____ Other (Explain in Remarks)

Remarks:

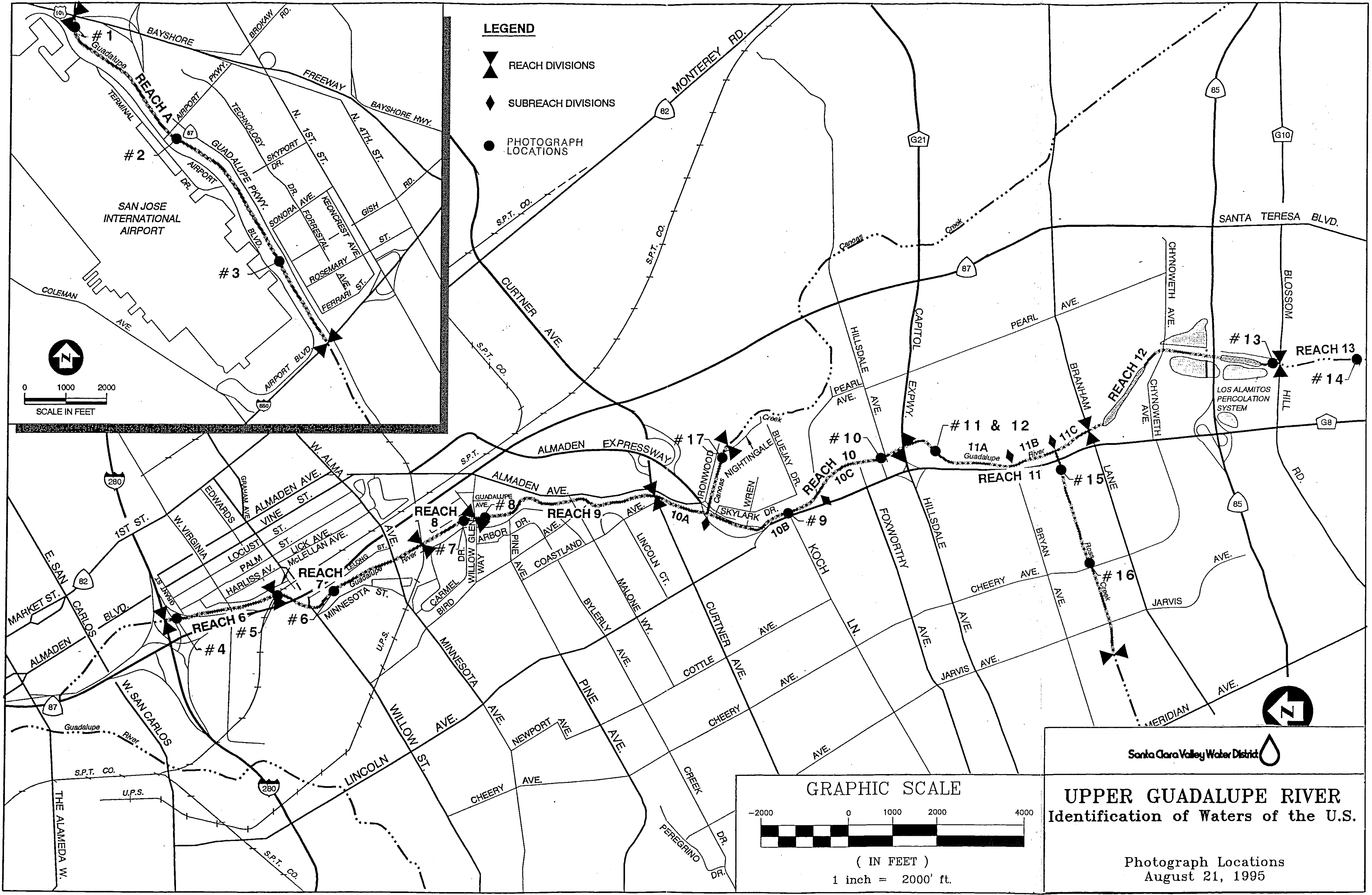
WETLAND DETERMINATION

(Circle)
Hydrophytic Vegetation Present? [✓ Yes] No
Wetland Hydrology Present? [✓ Yes] No
Hydric Soils Present? [✓ Yes] No

Is this Sampling Point Within a Wetland? (Circle) [✓ Yes] No

Remarks:

APPENDIX D
Photographs of the Upper Guadalupe River Flood Control Project Site



Santa Clara Valley Water District

UPPER GUADALUPE RIVER
Identification of Waters of the U.S.

Photograph Locations
August 21, 1995

REV. 1 C337-98.DWG 11/03/94

ENGINEERING-SCIENCE, INC.

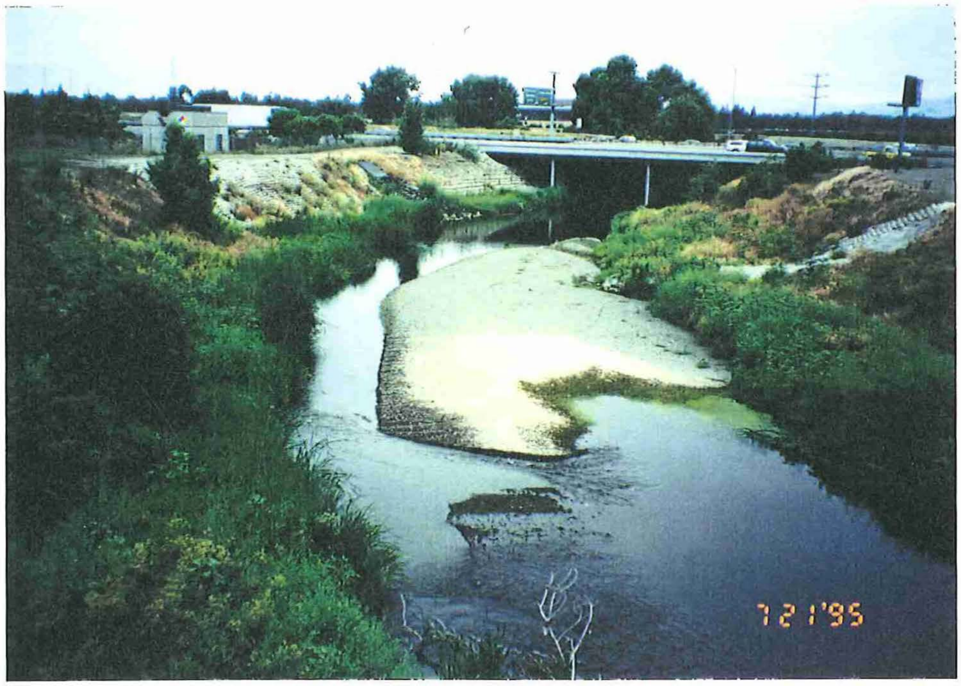


Photo 1. Reach A - near Highway 101.

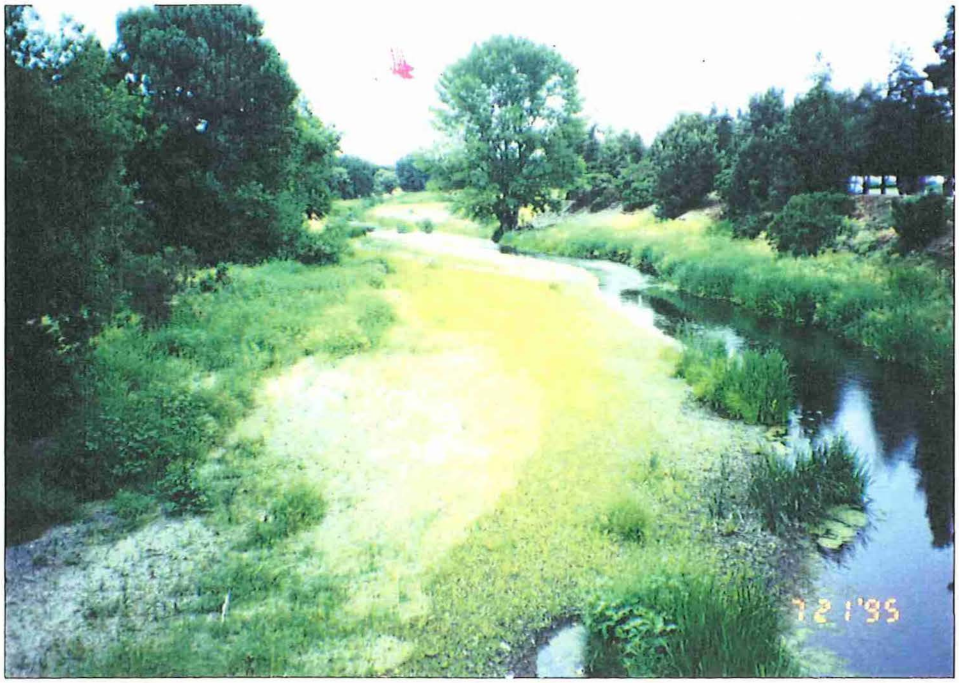


Photo 2. Reach A - south of Airport Parkway.

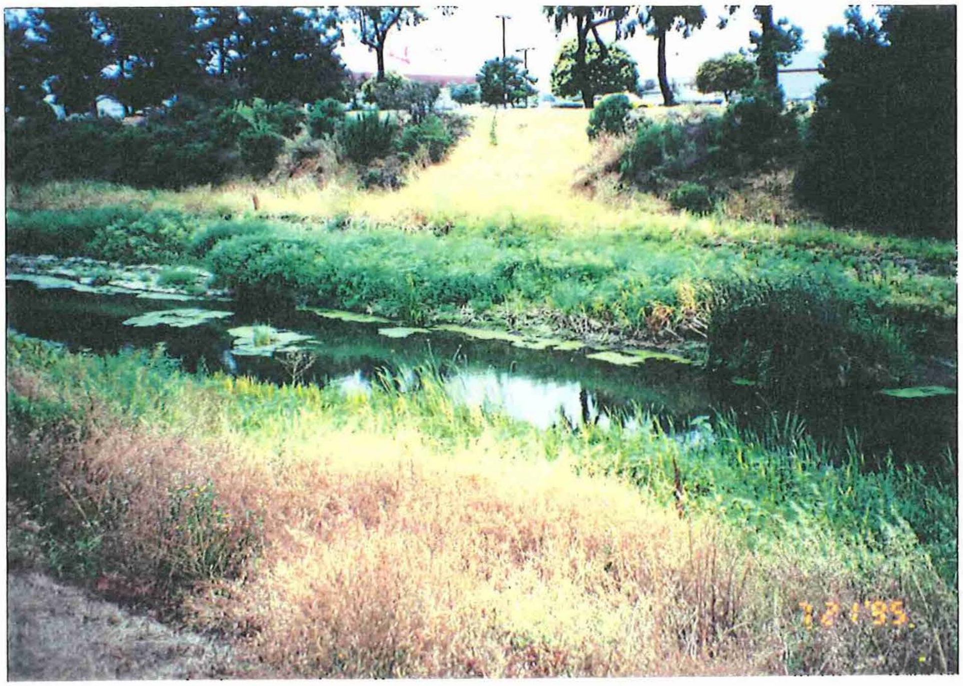


Photo 3. Reach A - wetlands bordering channel.

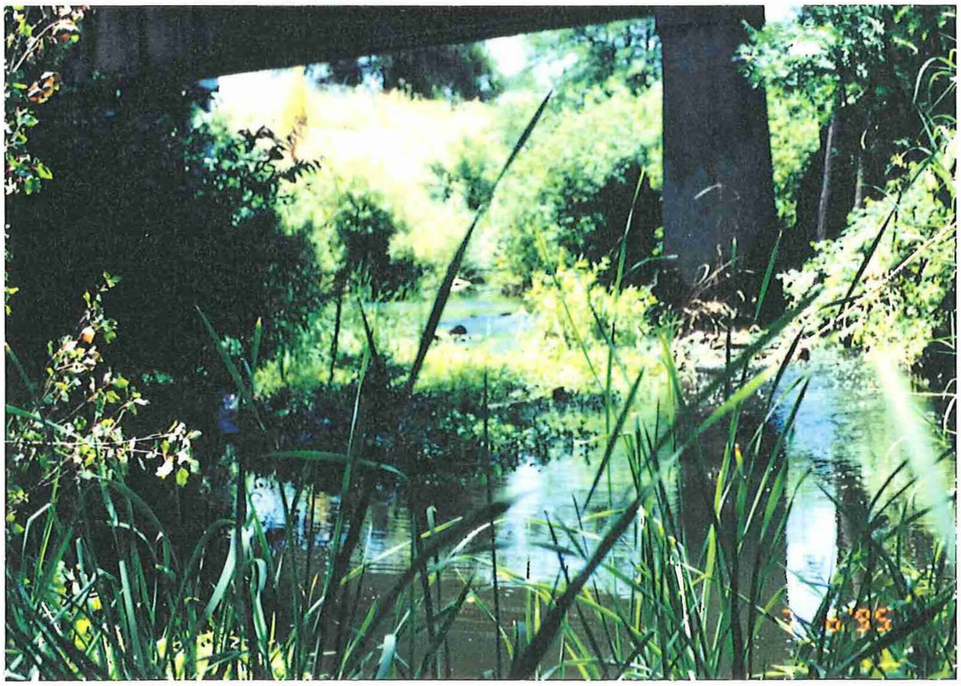


Photo 4. Reach 6 - wetland downstream of Highway 280.

Photo 5. Reach 7 - just downstream of Highway 87 crossing.

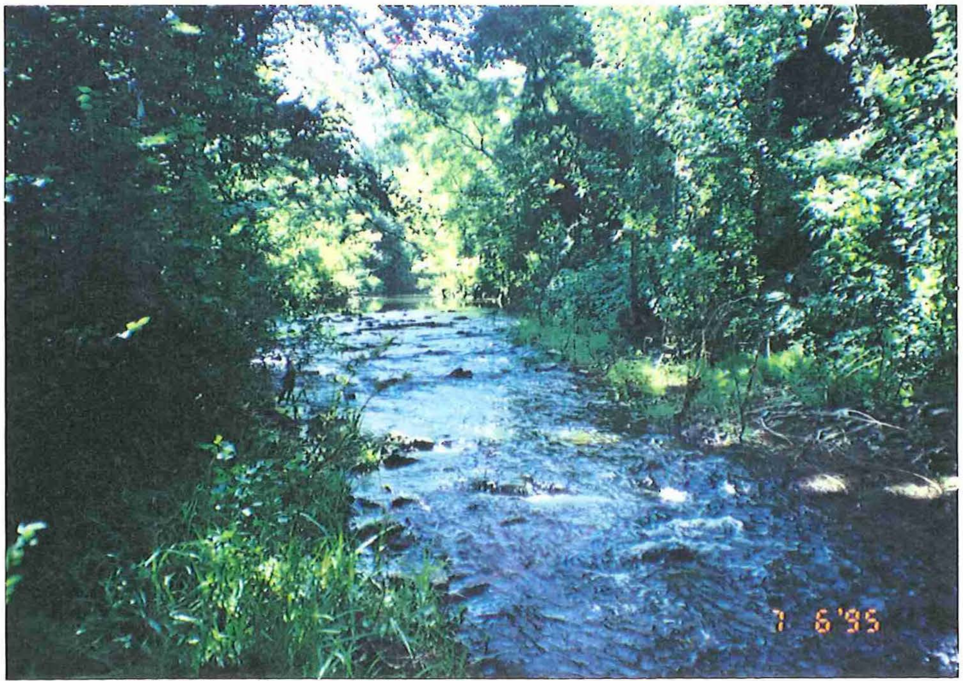


Photo 6. Reach 7 - looking upstream from transect 7-2.

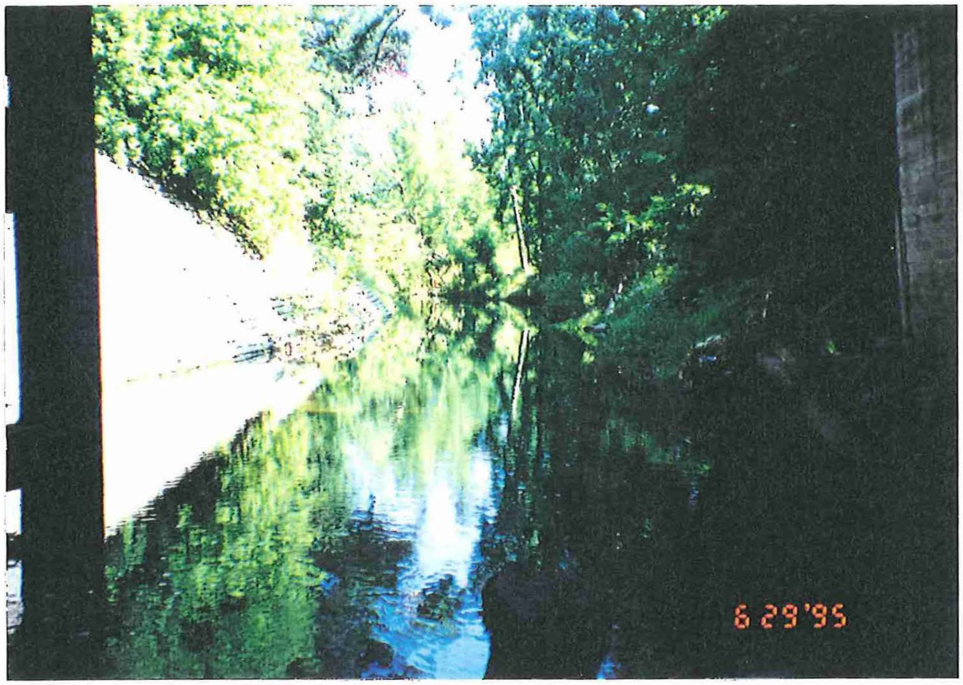


Photo 7. Reach 8 - upstream from the Willow Glen bridge.

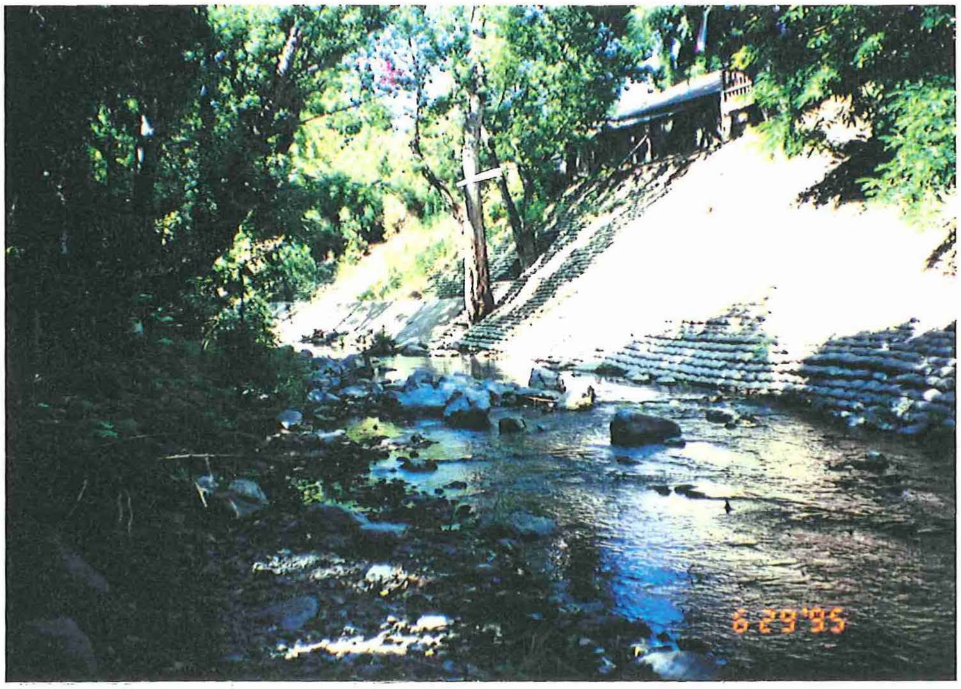


Photo 8. Reach 9 - downstream from the Willow Glen bridge.

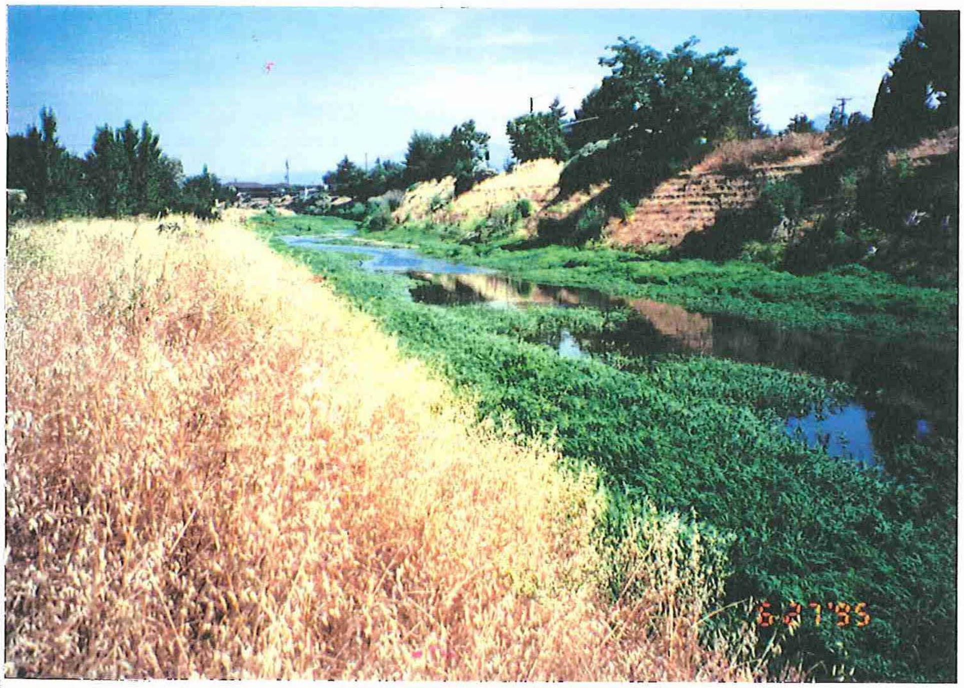


Photo 9. Reach 10 - wetlands below gabion bank.

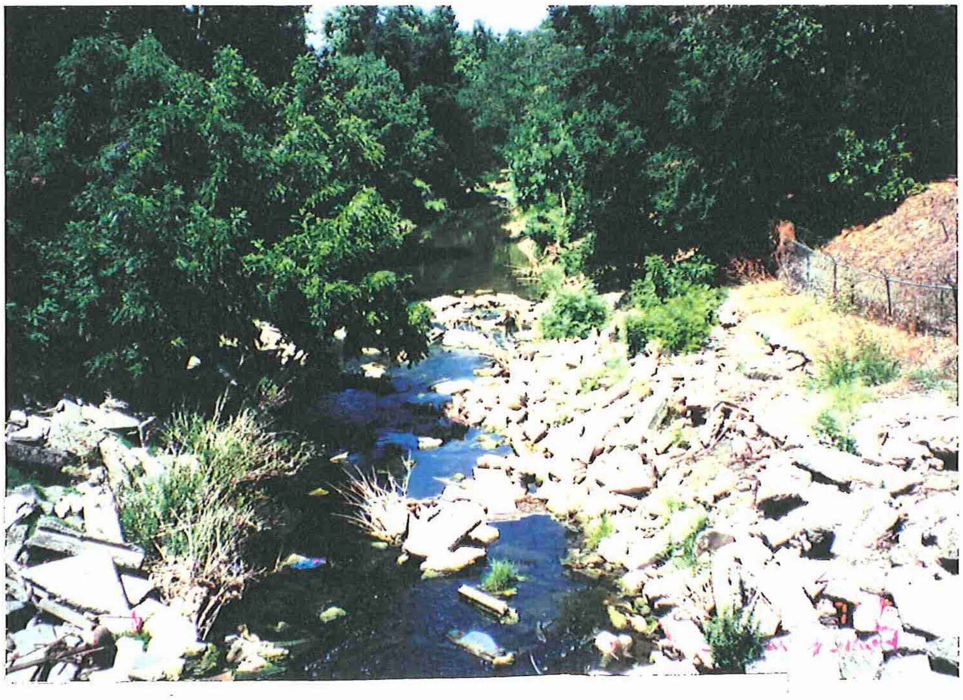


Photo 10. Reach 10 - downstream of Hillsdale Avenue.

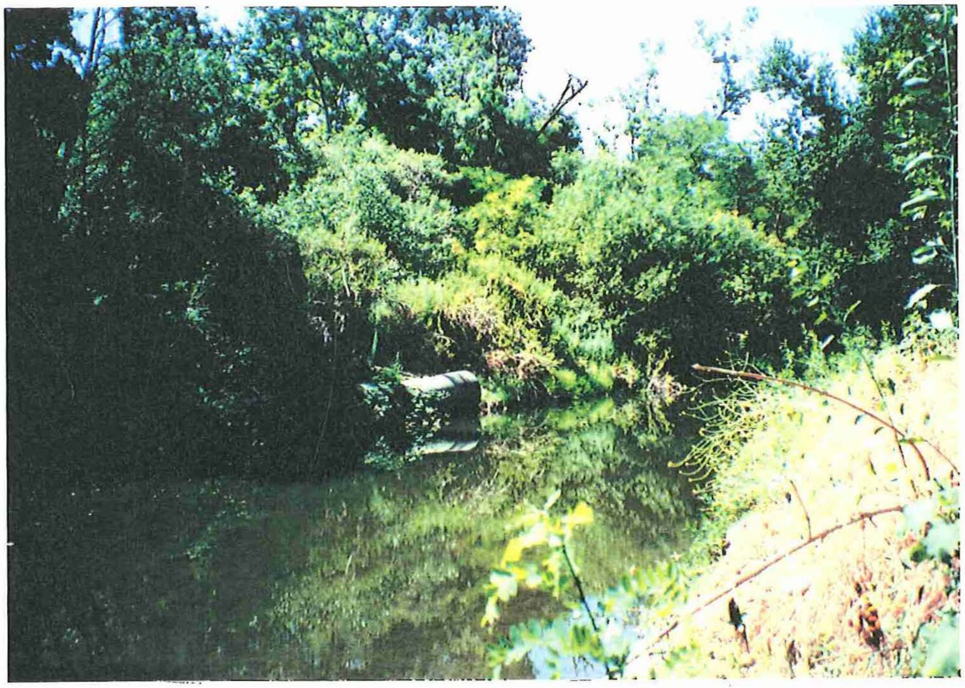


Photo 11. Reach 11 - upstream from transect 11-4.

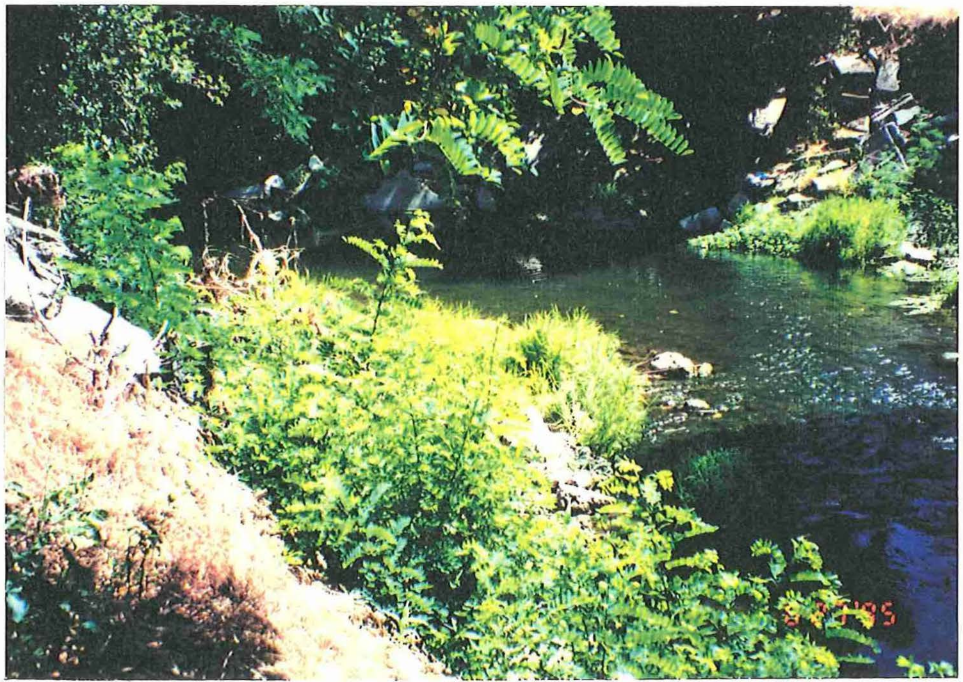


Photo 12. Reach 11 - seasonal wetlands at transect 11-4.

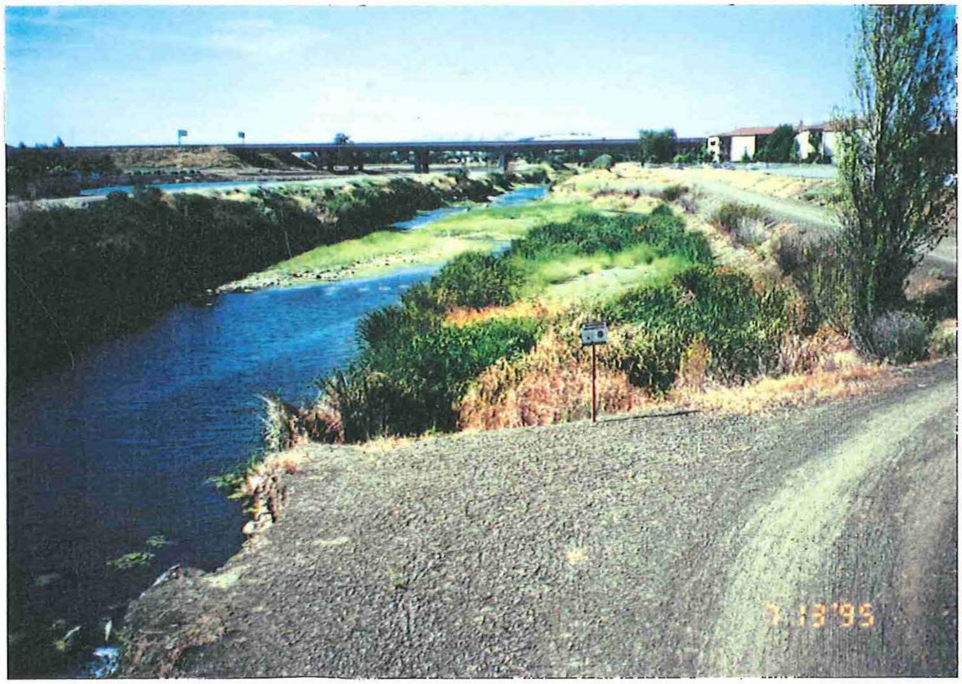


Photo 13. Reach 12 - downstream of Blossom Hill Road.

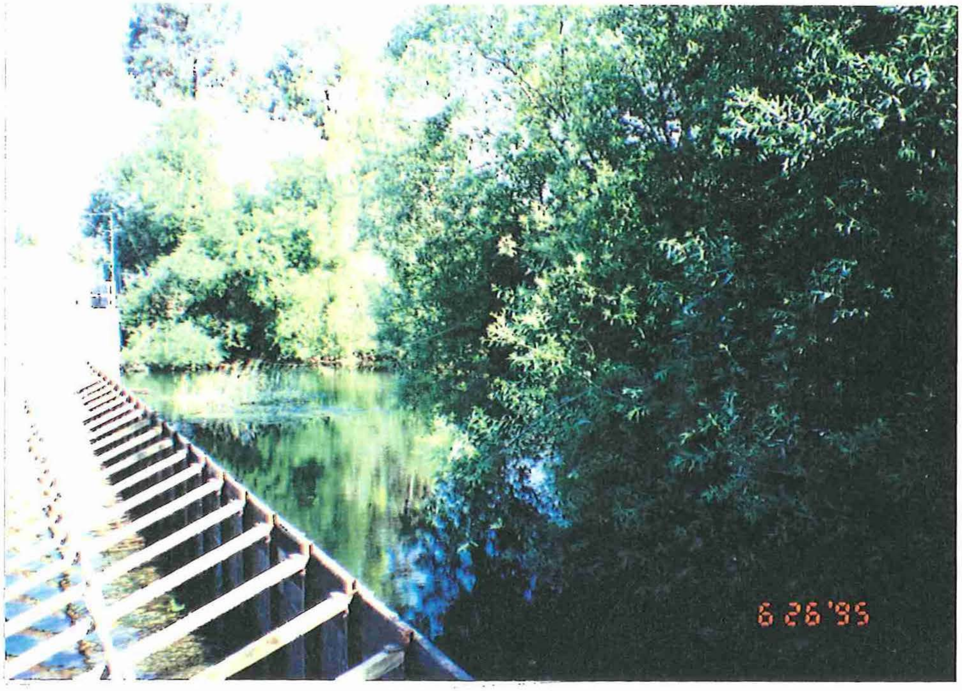


Photo 14. Reach 13 - upstream of the Alamitos Drop Structure

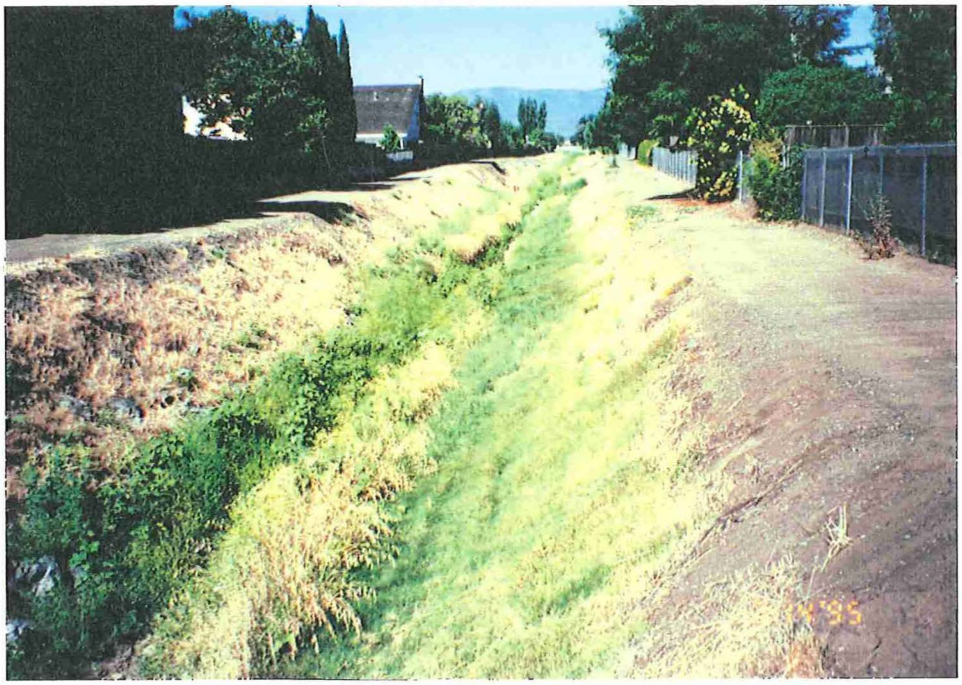


Photo 15. Ross Creek - general view.

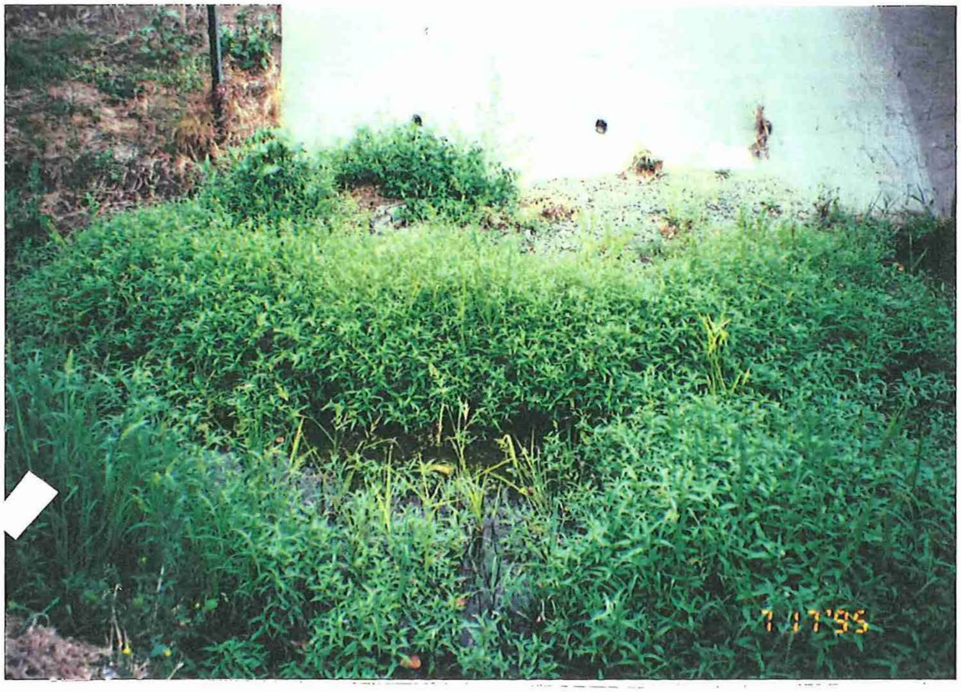


Photo 16. Ross Creek - seasonal wetland downstream of Cherry Ave.

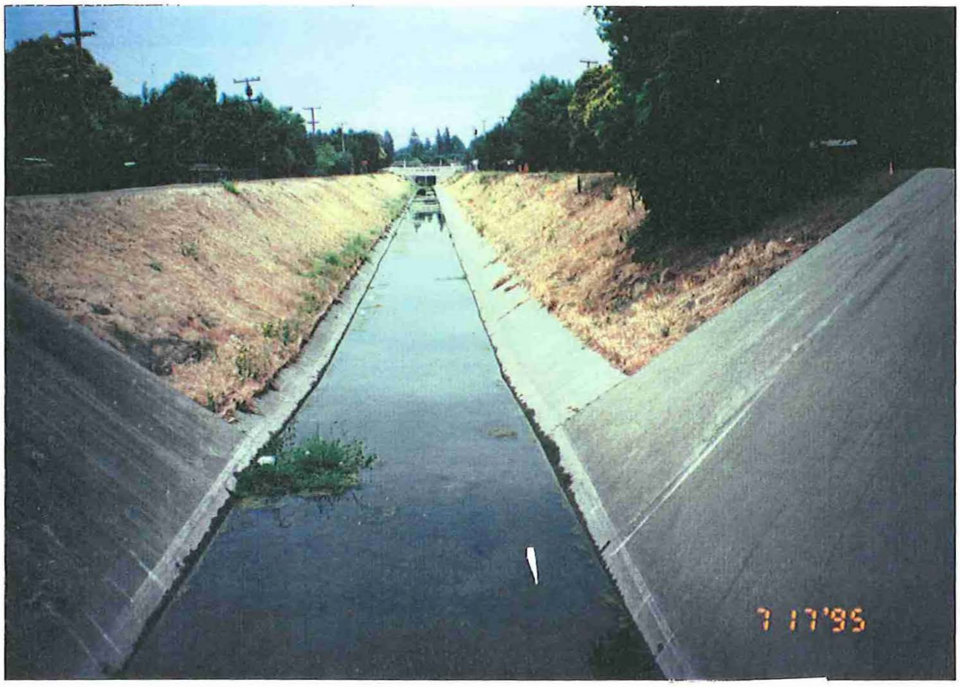


Photo 17. Canoas Creek - downstream of Nightingale Dr.